Installation and User Manual

QNVR

Quantum IP Network Video Recorder

CE Information

The product must be installed according to the currently valid installation regulat ions for EMC to guarantee the designed use and to prevent EMC problems.

The device supplied with this manual meets the requirements of the following E C Directives: EMC: 2004/108/EC, LVD : 2006/95/EC and RoHS: 2011/65/EU

WARNING
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Safety Precautions

1. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

2. WARNING – TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THE SET TO RAIN OR MOISTURE.

3. "IMPORTANT SAFETY INSTRUCTIONS"

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with a dry cloth.

7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use the attachments/accessories specified by the manufacturer.

12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

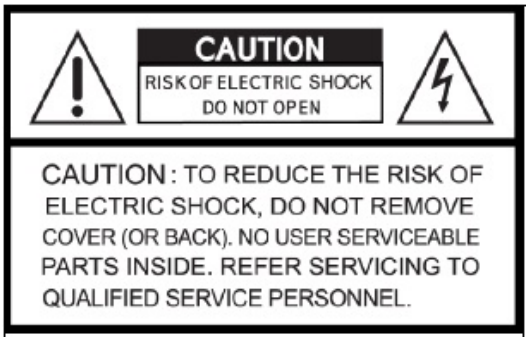
15) the apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

16) Shall be connected to a MAINS socket outlet with a protective earthing connection.

17) the disconnect device shall remain readily operable.

18) The socket-outlet shall be installed near the equipment and shall be easily accessible.

4. Explanation of Safety Related Symbols



This symbol is intended to alert the user to the presence of unprotected "Dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
Hazardous moving parts
Keep away from moving fan blades

Contents

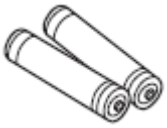
Overview

1. Contents of Packing

User Manual

Power Cable

Remote Controller



Battery (AAA x2)

Mouse

Installation CD

2. Features

● Convenience

- User-friendly GUI (Graphical User Interface)
- Easy-to-use menu structure
- Easy-to-use recorded data search (Time, Date, Motion, and Alarm)
- Easy-to control via Front Panel, IR remote control and USB 2.0 mouse.

● Stability

- Auto restart after power interruption
- DB structure offers data stabilisation and better storage utilisation

● Expandability

- Remote NVR's can be controlled using the supplied software client viewer.

● Technology

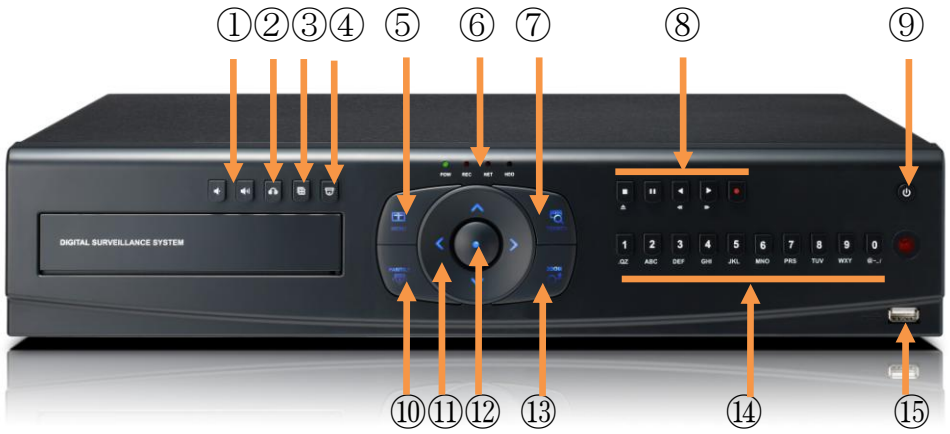
- Embedded LINUX OS
- Multi-Decoding (H.264/MPEG4/JPEG)
- High-resolution & high-quality H.264 algorithm
- Uses watermarking & scrambling technologies,

● Functionality

- Variable recording function (normal, alarm, motion, schedule)
- RS485 Telemetry
- Full channel real-time monitoring
- Live monitoring, recording, playback, backup, remote access simultaneously
- Multi channel playback
- Variable events notification to e-mail, buzzer or PC Client system

Installation

1. Front Panel Controls



① Volume Up & Down (/)

To increase or decrease the volume.

② Audio Selection

Switches through audio channels

③ Multi-screen Display

Use the Multi-screen display button to select the display mode (single/4/9/16way).

④ PTZ Channel Selection

Used to select the PTZ channel on multi-screen.

⑤ Menu

Displays the menu on the screen

⑥ Indicator

- POWER: System Power On/Off (When power is on, the green light will be illuminated)
- REC: Recording status (When recording is on, the red light will flash)
- NET: Network status (When network is connected, the light will lash)
- HDD: HDD status (When the system is reading or writing to the HDD, the light will flash)

⑦ Search

Entering search mode

⑧ Stop / Eject (■)

To stop playback and go back to live mode. To eject DVD-RW

Pause (❚❚)
To freeze picture on playback mode and live mode.

Forward Play (▶)
Playback of the recorded data. When in play mode press again to enter fast forward mode. When video is paused this allows frame forward.

Reverse Play / Rewind (◀)
Reverse play of recorded data. When in play mode press again to enter fast rewind mode. When video is paused this allows frame forward

Rec (●)
It starts & stops manual recording, password protected.

⑨ Power
System Power On/Off (Password protected)

⑩ Pan / Tilt
To enable the pan & tilt of PTZ cameras, a “T” will appear in the task bar at the bottom of the screen

⑪ Arrow Buttons
Moves the cursor while in menu mode
Pan and tilt in telemetry mode
Play forward / backwards in play mode

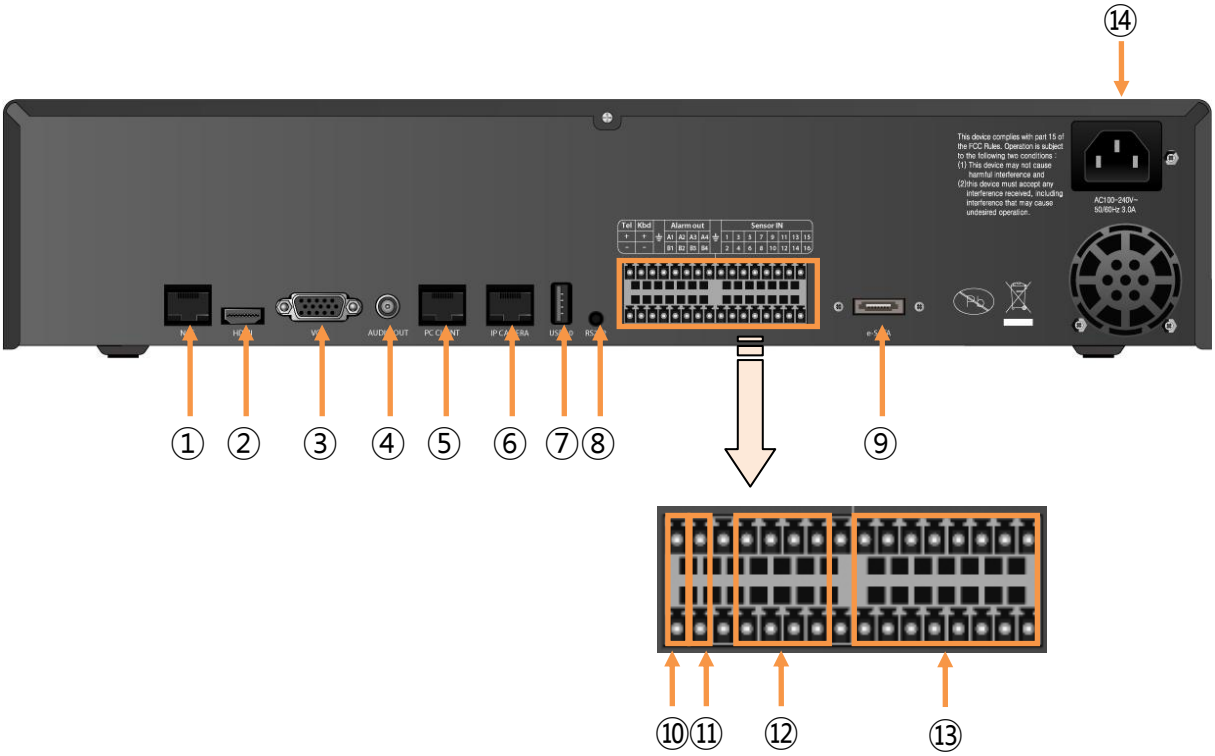
⑫ Select
Menu selection

⑬ Zoom
To control the zoom in & out of PTZ camera

⑭ Numeric & Character
Input for numbers & letters within the setup menus and searches

⑮ USB Port
USB connector for mouse control & downloading to USB memory.

2. Rear Panel Connectors



① Network Port for NAS

Will allow for Archiving across the network to a NAS device (Not currently operational, for future development)

② HDMI Output

HDMI output port (1080p)

③ VGA Output

VGA video output for main monitor (1024x768 to 1920x1080)

④ Audio Output

Audio output

⑤ Network Port for PC Client

Connecting to the PC through Internet or LAN

⑥ Network Port for IP camera

Connecting to IP cameras on a LAN

⑦ USB Port

USB 2.0 port for mouse, USB storage

⑧ RS232 Port

Serial Communication (for service)

⑨ E-SATA Port

Port for e-SATA HDD

⑩ PTZ Camera Controller

Serial Communication for Pan / Tilt Camera

⑪ Keyboard Controller

Serial Communication for P/T/Z Control Keyboard

⑫ Alarm Output

Alarm(relay) output port

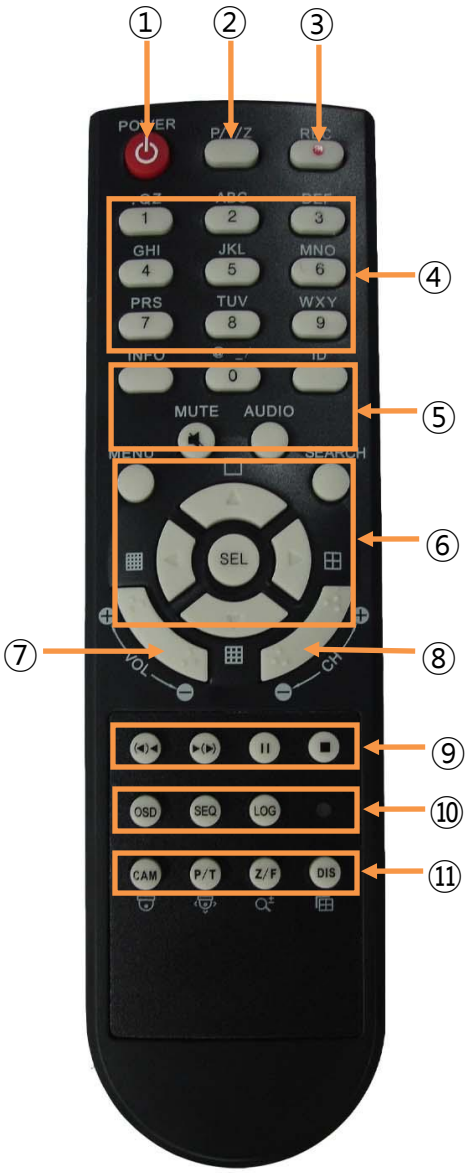
⑬ Sensor Input

16 Sensor input ports

⑭ AC Power Input

AC 100-240V 50/60Hz

3. Remote Control



① **POWER :** Power on/off

② **P/T/Z :** Entering PTZ Setup menu directly

③ **REC :** Start & Stop Recording

④ **Numbers and letters** (1 to 9)

⑤ **INFO :** Direct access system infomation
ID : Entering remocon ID set mode
MUTE : Audio Mute
AUDIO : Switches through Audio channels

⑥ **MENU:** Entering system menu
SEARCH: Entering search
ARROW : Left, Right, Up and Down
SEL : Select/Enter

⑦ **VOL +/- :** Up, down volume

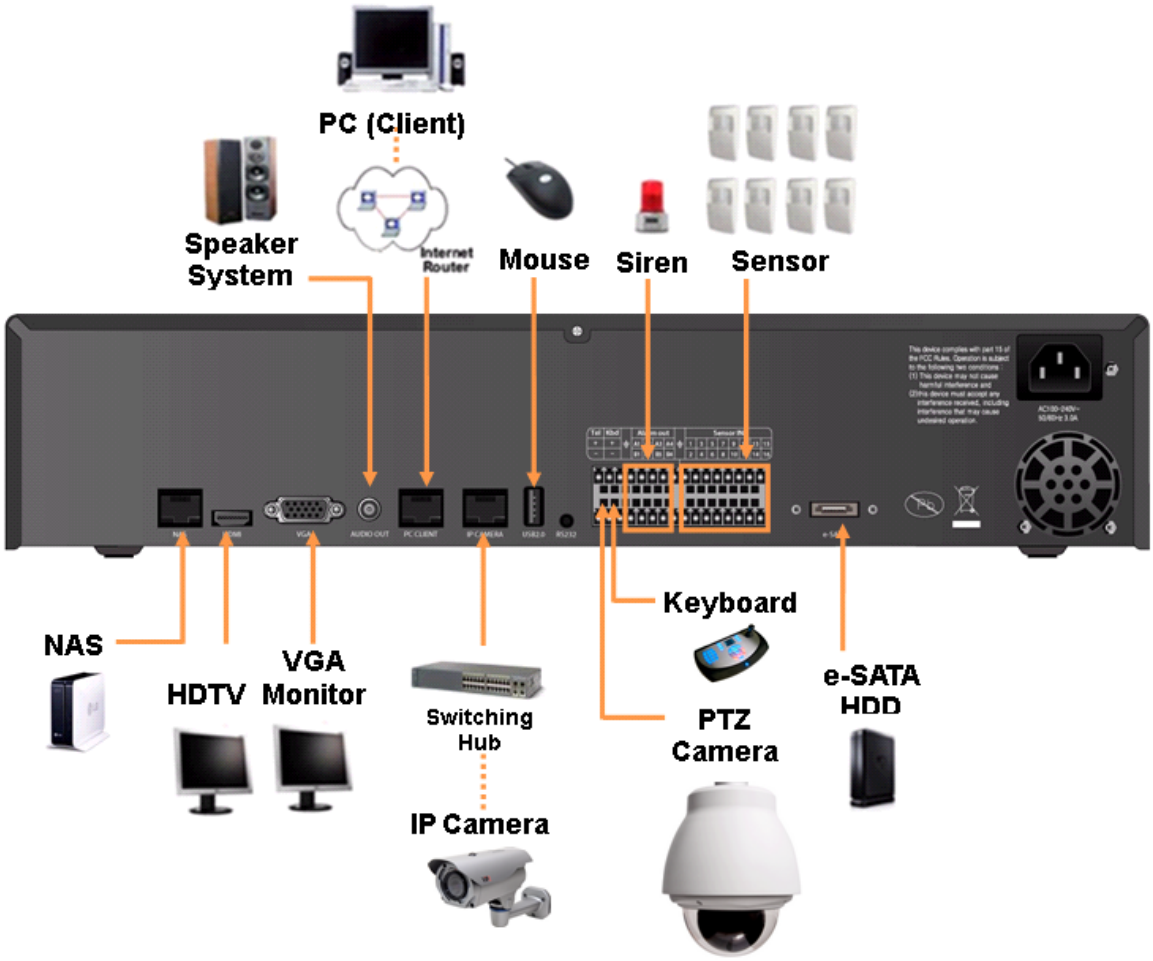
⑧ **CH +/- :** Up, down channel

⑨ **(◀)◀ :** Reverse play
▶(▶) : Play (or fast forward)
I I : Pause
■ : Stop playback

⑩ **OSD :** On Screen Display ON/OFF
SEQ : Sequence operation
LOG : Direct access Log list

⑪ **CAM :** Changing PTZ icon
P/T : Pan &Tilt
Z/F : Zoom/ & Focus
DIS : Channel Division

4. Connection Guide



Connecting the monitor

There are two available monitor outputs on NVR.

- HDMI output : Connect to the HDMI port of the HD monitor(HDTV).
- VGA output : Connect to the VGA port of the VGA monitor.

Connecting to a network

Use the Ethernet port to connect to remote PC, IP cameras and NAS via Ethernet network.

- Port for PC Client: Connect to the PC. (Default: 192.168.1.111)
- Port for IP Camera: Connect to IP camera network. (Default: 192.168.30.222)
- Port for NAS (for future development): Will allow connection to the network storage for archiving only. This can share either of the above sub-nets or be on a third independent sub-net (default 192.168.30.223).

Important: The PC port and IP camera port **must not** be on the same subnet.

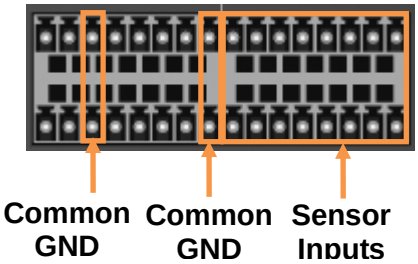
Connecting audio

To listen to live or recorded audio, connect to an amplified speaker system.

- Audio output : Connect to the audio in of the audio AMP.

Connecting to a sensor input

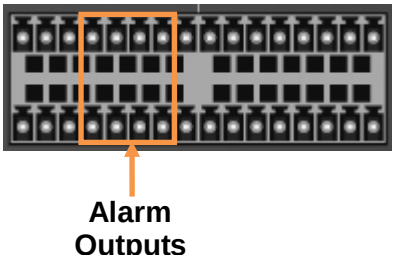
There are 16 individual alarm inputs marked as Sensor In (1-16).



- Sensor inputs : Connect to (+) terminal of a sensor.
- Common GND : Connect to (–) terminals of sensors.

Connecting to a alarm output

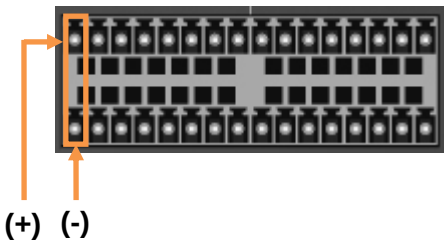
The NVR can activate external devices such as buzzers or lights using the relay.
There are 4 relay outputs marked as Alarm out.



- A1/A2/A3/A4 : Connect to (+) terminal of buzzer or light.
- B1/B2/B3/B4 : Connect to (–) terminals of buzzer or light.

Connecting to a PTZ camera

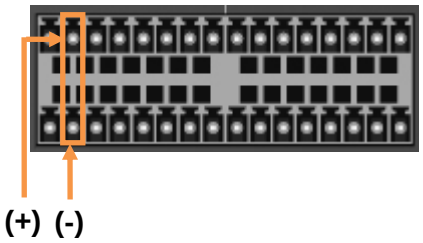
This RS485 connector can be used to control Pan / Tilt / Zoom camera.



- Telemetry (+) : Connect to RS485 Rx(+) of PTZ camera.
- Telemetry (-) : Connect to RS485 Rx(-) of PTZ camera.

Connecting to a remote keyboard (VKBD4)

This RS485 connector is for a control keyboard.



- Keyboard (+) : Connect to RS485 Tx(+) of the keyboard.
- Keyboard (-) : Connect to RS485 Tx(-) of the keyboard.

Connecting to a mouse

- USB 2.0 : Connect to the mouse.

Connecting to a external HDD

To expand the HDD capacity, connect the external storage.

- e-SATA : Connect to the e-Sata HDD storage.

5. Turning on the NVR

1. Connect the power cable.

2. Connect camera cables.

3. Connect a network cable and a monitor cable.

4. Press the POWER button on the front panel and wait until the main screen is displayed on the connected monitor; this process may take a couple of minutes.

Operation

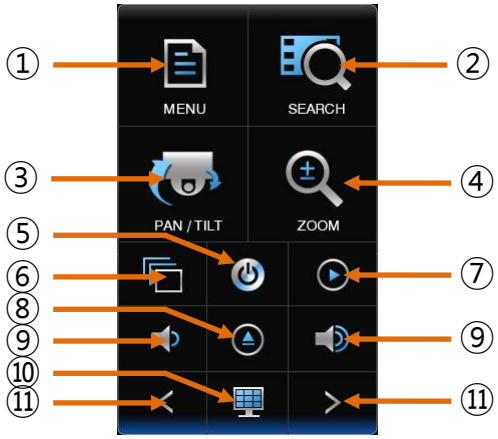
1. Navigation

You can navigate the on screen menus using the front panel buttons, IR remote control or mouse.

1-1. Mouse Control

Right clicking the mouse brings up the following popup menu.

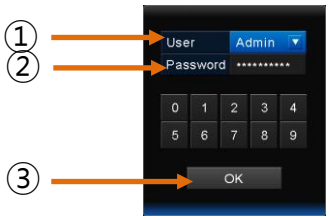
① Setup Menu
② Search Menu
③ PAN/Tilt Menu
④ Focus/Zoom Menu
⑤ Power Button
⑥ Sequence Button
⑦ Playback Button
⑧ Eject Button
⑨ Volume Up/Down Button
⑩ Multi-screen Display Button
⑪ Channel Up/Down Button



1-2. Menu Navigation

To enter the Setup menu, the user has to have the required access rights and be logged on.
Press the Menu button or right click with mouse on screen and select the menu icon.
The following screen will be displayed asking for password.

① Select the user ID.
② Enter the password.
The default password is 00000000(8 zeros).
③ Press OK, the setup menu will be displayed on screen.



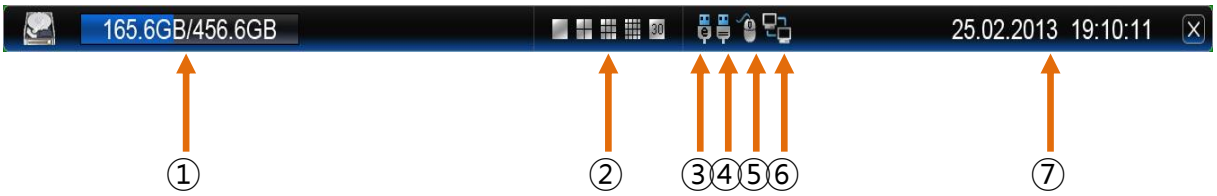
All menus are navigated around using the Left/ Right/ Up/ Down and the Select button or mouse.

To step back out of the menus, press MENU button or click the right button of the mouse.

2. Screen Displays

2-1. OSD Description

The Status Bar on screen shows HDD capacity, network connection, current time, etc.



① HDD capacity: Used capacity / Duration

② Multi-screen Display icons : Single/ 4/ 9/ 16way

③ e-SATA connection

④ USB memory connection

⑤ Mouse connection

⑥ Network connection

⑦ Current Date/Time

2-2. Select Channel

Use the Multiscreen display button ( ) on the popup menu to select the display mode.

Single Channel

Live 1ch

4 Channel

Live 4ch

9 Channel

Live 9ch

16 Channel

Live 16ch

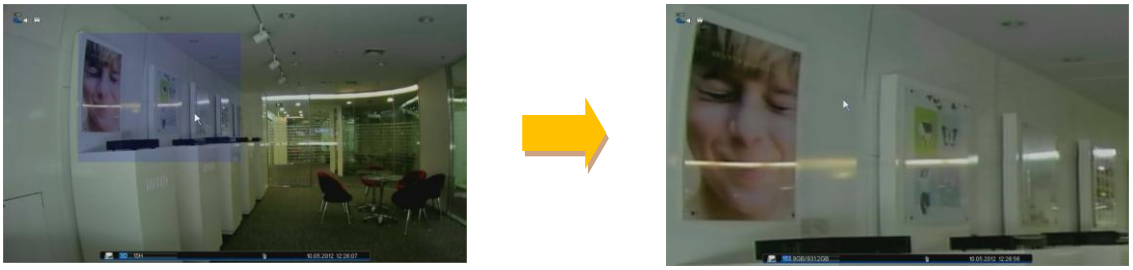
Also you can use the DIS button on the remote controller to change the display mode.

Display switches in the following order when the DIS button is pressed.

Single Channel → 4 Channel → 9 Channel → 16 Channel → Single Channel

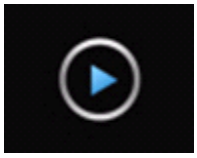
2-3. Digital Zoom

When the system is in full-screen mode, drag your mouse in the screen to select a section and then left click mouse to realize digital zoom.
You can right click mouse to exit.



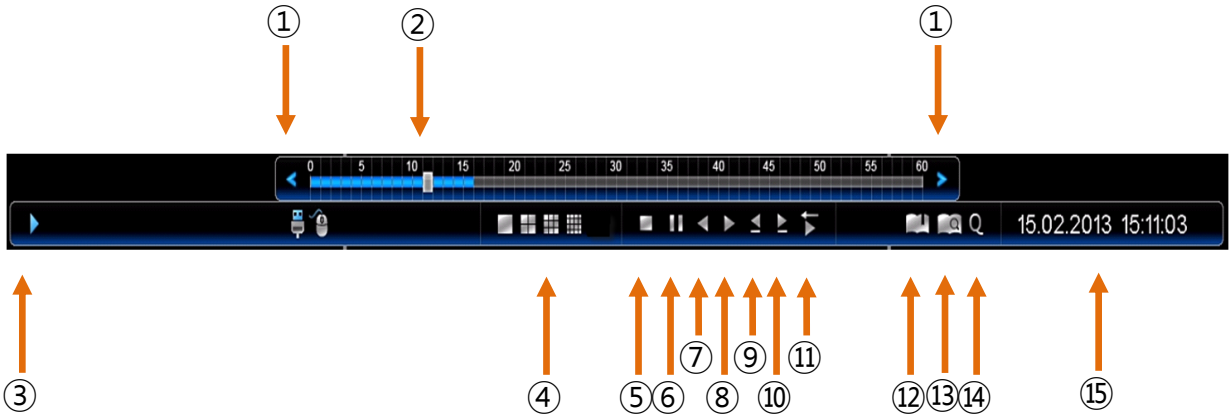
3. Playback

Click the right button on the mouse, the popup menu will be displayed on screen.
To begin playback, press the Play button on the popup menu:



3-1. OSD Description

The Control Bar on screen shows Playback control buttons, Progress bar, Display mode buttons, Playback time, etc.



① Previous/ Next time buttons
② Time Bar
③ Playback Speed Display
④ Display mode buttons(1/4/9/16ch)
⑤ Stop button
⑥ Pause button
⑦ Reverse Play button
⑧ Play button
⑨ Reverse Slow Play button
⑩ Slow Play button
⑪ Replay button
⑫ Add Bookmark button
⑬ Search Bookmark button
⑭ Quick Archive button
⑮ Playback Date & Time

3-2. Playback Control

Playback

When the Play button(⑧) is pressed, the unit will play forward at the rate the data was recorded. While in the play mode, the user may change the playback direction, playback speed. To return to play forward operations, press the Play button(⑧).

Reverse Play

To begin reverse playback, press the Reverse Play button(⑦).

Pause

During playback, press the Pause button (⑥). This feature pauses all full screen and multi-screen images. When this button is pressed in the pause mode, the unit will play.

Single Frame Advance

During the pause mode, press the Play button (⑧) to view the frame directly after the frame displayed on screen.

Single Frame Rewind

During the pause mode, press the Reverse Play button (⑦) to view the frame directly before the frame displayed on screen.

Fast Forward

In playback mode, press the Play button(⑧) to switch between various fast play modes such as x2, x4, x8, x16, x32 play.

Fast Backward

In reverse playback mode, press the Reverse Play button(⑦) to switch between various reverse play modes such as x2, x4, x8, x16 reverse play.

Slow Playback

In playback mode, press the Slow Play button(⑩) to switch between various slow play modes such as x1/2, x1/4, x1/8, x1/16, x1/32 slow play.

Slow Reverse Play

In playback mode, press the Reverse Slow Play button(⑨) to switch between various slow play modes such as x1/2, x1/4, x1/8, x1/16, x1/32 reverse slow play.

Stop

To stop playback and return to the live mode, press the Stop button(⑧).

3-3. Playback Search

The user can search the recorded video during playback.

The recorded video is indicated by a colour bar on the time bar(②).

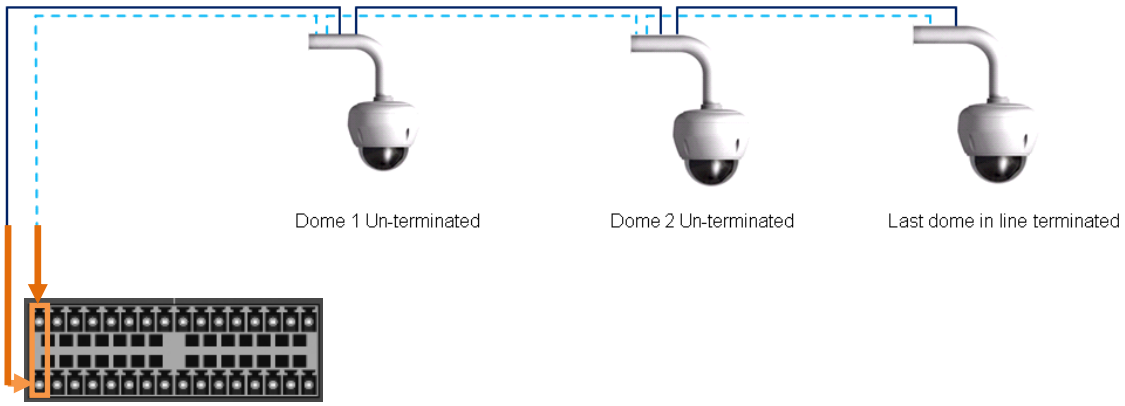
You can use the Previous/ Next time buttons(①) to view if there are more recorded data.
Click the mouse at the desired point of the colour bar, you can view the recorded data.

For more advanced search modes see “Search Menu” section page 48

4. PTZ Control via RS485

The user can control PTZ cameras via RS485 communication.
The PTZ domes can be wired in a Daisy chain.

Daisy Chain configuration



The telemetry function of NVR can be controlled via 4 different methods:

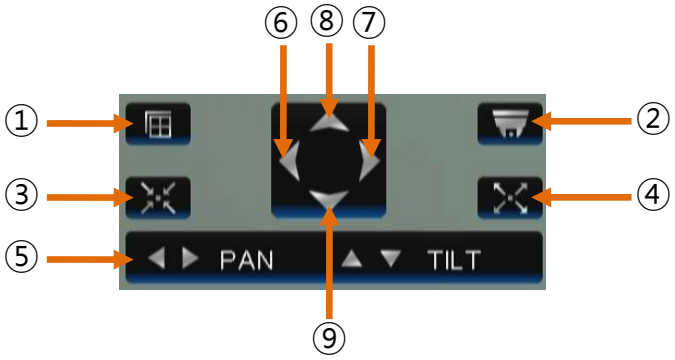
1. Mouse
2. Remote keyboard
3. Remote controller
4. Software viewer

4-1. PTZ Control by mouse

1. Click the right button the mouse, the popup menu will appear.

2. To control Pan/Tilt, click the P/T icon(①).
   To control Zoom/Focus, click the Z/F icon(②).

3. The PTZ menu will be displayed on screen.
   The user can control PTZ cameras using PTZ menu.



① Multiscreen Display : Changing the display mode

② PTZ Camera Selection

③ Set Preset

④ Call Preset

⑤ PTZ Mode : The PTZ mode is toggled between Pan/Tilt and Zoom/Focus mode whenever this button is pressed.

⑥ Pan Left / Focus Near

⑦ Pan Right / Focus Far

⑧ Tilt Up / Zoom In

⑨ Tilt Down / Zoom Out

[Camera selection]

The PTZ cameras can be controlled in either full screen or split screen mode.

If in split screen mode press the PTZ Camera Selection button(②), the PTZ camera icon will step from one camera to the next on the split screen.

[Pan and Tilt control]

Press the PTZ Mode button(⑤) to enter the Pan/Tilt mode.

To move the dome use the arrows buttons;

Left(⑥) : Pan left, Right(⑦) : Pan right, Up(⑧) : Tilt up, Down(⑨) : Tilt down

[Zoom and Focus control]

Press the PTZ Mode button(⑤) to enter the Zoom/Focus mode.

To zoom or focus use the arrows buttons;

Left(⑥) : Focus near, Right(⑦) : Focus far, Up(⑧) : Zoom in, Down(⑨) : Zoom out

[Preset positions]

1. To store a preset position, move the camera to the required position.
2. Press the Set Preset button(③), the popup window will appear.
3. Enter the preset number to be stored then press OK.

[Call Preset]

1. To recall a preset position press the Call Preset button(④), the popup window will appear.
2. Enter the preset number you want then press OK.

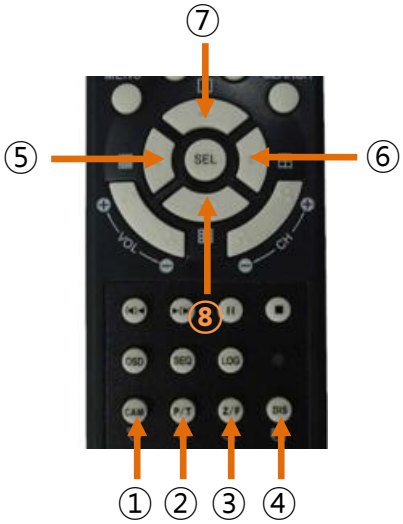
4-2. PTZ Control by remote keyboard

1. Select Dome from the keyboard, ensure the keyboard is in Pan and Tilt mode.
2. Use the joystick to move the camera.
   * For more detail, please refer to your keyboard manual.

4-3. PTZ Control by remote controller

[Camera selection]

The PTZ cameras can be controlled in either full screen or split screen mode. If in split screen mode press the camera selection button(①), the PTZ camera icon will step from one camera to the next on the split screen.



[Pan and Tilt control]

Press the P/T button(②) to enter the Pan/Tilt mode.
To move the dome use the arrows buttons;

Left(⑤) : Pan left, Right(⑥) : Pan right

Up(⑦) : Tilt up, Down(⑧) : Tilt down

[Zoom and Focus control]

Press the Z/F button(③) to enter the Zoom/Focus mode.
To zoom or focus use the arrows buttons;

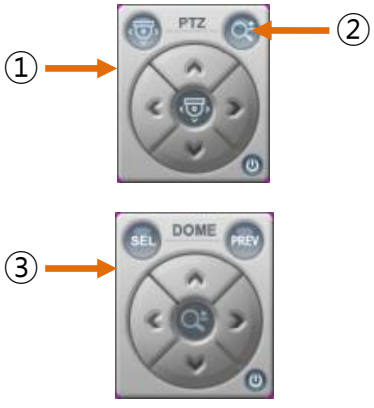
Left(⑤) : Focus near, Right(⑥) : Focus far

Up(⑦) : Zoom in, Down(⑧) : Zoom out

4-4. PTZ Control by Client software

While Client software is running select the dome required.

1. Enter the Pan/Tilt mode by pressing the PTZ icon  at the top of the screen.
   The Pan/Tilt control window(①) will appear.
2. To move the dome use the arrows buttons;
   Left : Pan left, Right : Pan right
   Up : Tilt up, Down : Tilt down
3. Press the Z/F mode button(②) on the control window to change to the Zoom/Focus mode.
   The Zoom/Focus control window(③) will appear.
4. To zoom or focus use the arrows buttons;
   Left : Focus near, Right : Focus far
   Up : Zoom in, Down : Zoom out



Setup Menu

1. Display

1-1. OSD Setting

On Screen Display Setting: Selecting whether the various information is shown on the screen or not.

Status Bar

The display bar at the bottom of the screen can be set to be permanently on or to disappear after a period of time.

Playback Bar

The control bar in the play mode can be set to be permanently on or to disappear after a period of time.

Camera Name

The camera title can be displayed or not (On/Off)

Event Display

Icons such as recording mode, motion detection can be displays or not (On /Off)

Audio Channel

The channel with the audio can be displayed or not (On/Off)

PTZ Channel

The channel connected with the PTZ camera can be displayed or not (On/Off)

Camera Model Name

The model name of IP camera can be displayed or not (On/Off)

Compression

The type of video compression can be displayed or not (On/Off)

Resolution
The resolution of recording can be displayed or not (On/Off)

Frame Rate
The frame rate of image can be displayed or not (On/Off)

Data Rate
The data rate of image can be displayed or not (On/Off)

PTZ display
When in telemetry mode the on screen telemetry display can be set to be Always on or to disappear after a set period of inactivity 5 or 10 second or Off.

PTZ Timeout
The PTZ operation can be set to time out after a period of time.

PTZ Mode
Control of PTZ devices can be limited to either local control, remote control over network or both.

Menu
The menu display can be set to time out after either 1 or 5 minutes.

Password Entry
The password entry display can be set to time out after 1 or 5 minutes.

Blending
The opacity of the menus and Status bar can be set between 0 and 6, 0 is solid, 6 being very opaque.

HDD
It allows you to see the free space of HDD or remaining recording time of HDD.

Camera View Position
It allows you to change the position of cameras for more efficient monitoring of your own individual location.

NOTE : In order to save any modified setting value, press "SEL" key when "Apply" section is highlighted. This action can be carried out within each Sub Menu.

1-2. Live Setting

The live settings are used to set up a sequence of either full screen camera images or multi screen displays

Sequence Set

Use the Up and Down arrows or the mouse roller wheel to select either: Full Screen, Quad, 9 or 16 way split sequences. The display will change to allow individual sequence times to be set per channel or split screen option.

Use the select key to turn the cell green and then the Up and Down keys to change the values. Use the right button to move to “Start” press select, the main monitor output will display this sequence.
Alternatively use the mouse to select the sequence required then select the duration.
Click “Start” to turn the sequence on. To interrupt the sequence, simply select any camera.

Alarm Display Mode / Alarm Display Freeze

It allows you to select the way to show channels in which the alarm occurs.

1-3. Camera Covert

Cameras can be hidden from the viewer in live or play back mode.

Select the camera to be made covert using the up and down keys, then press select to turn the camera green, toggle between on and off with the up and down buttons.
Alternatively use the mouse to select the camera and click between on and off.
In order to view covert cameras in Live or Playback, it needs to be turned off in the menus, this requires the necessary user rights.

1-4. Camera Name

Each camera can be titled using the alphanumeric buttons on the front panel or the mouse. Each title can have up to 29 characters, if there are too many characters to display in 1 line, it will be shown as _... For example, ‘FIRST MEETING ROOM’ -> ‘FIRST MEETIN…’

Use the Up and Down arrows to select the title to be altered, press the select key to turn the title green. Use the left and right arrows to select the character position and use the Alpha-numeric keys to select the character (Similar to SMS on a mobile phone). When complete press the select key to exit.
Alternatively use the mouse to select the title to alter, the on screen keyboard will appear, enter the title followed by the OK button.

2. IP Camera Set up, for live viewing and recording

Note: *Please ensure that all IP cameras are connected to the same network as your NVR and that the network settings for your QNVR are properly setup (See* ***Network Settings****).*

Overview:

The QNVR allows great flexibility in the configuration of the recording and viewing of the attached IP cameras.

Live viewing can be configured to either display real time video at up to D1 resolution across all channels, or to display up to 10 images per second at full HD resolution for each of the 16 inputs.

The recording of video streams can be configured in many different ways using the Schedule section of the “IP Camera” menu. In this manual the following three methods will be covered:

1. **Constant recording** – where by the QNVR simply records a single stream from each camera at a constant rate 24/7

2. **Event Boost recording** – (For VK2 camera with this function) where by on an event input to the camera, it will automatically increase the frame rate and resolution of the recorded image.

3. **Stream switching** – On an event input to the QNVR, the NVR will seamlessly switch from low resolution/low frame rate stream to a higher resolution/higher frame rate stream.

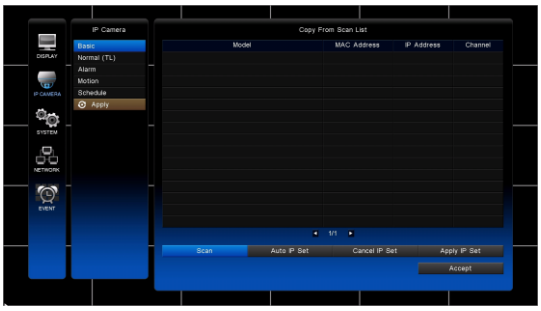
Note: *It is recommended that only H.264 streams are recorded*

2.1 Camera Discovery and Connection

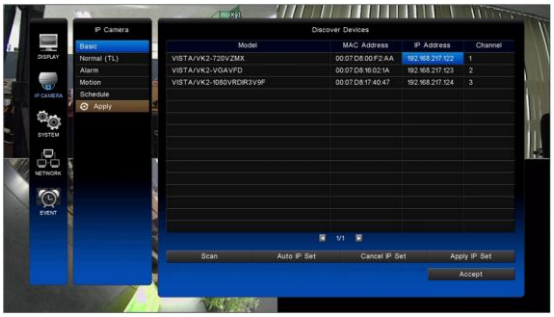
Note: *It is best to set up the cameras stream settings prior to carrying out the Discovery and connection operation.*

1. Enter the Main Menu of the QNVR, and go to: IP CAMERA > BASIC

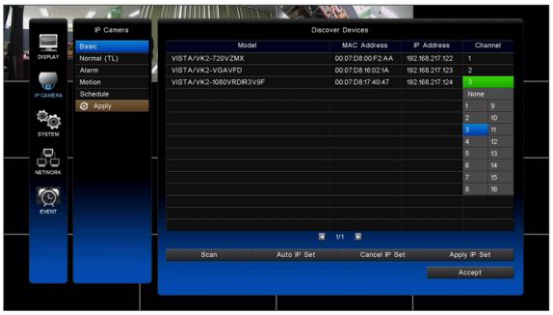
2. Click on the Camera Discovery button



3. Click the Scan button, and wait till the NVR discovers the cameras.



4. Assign logical channel numbers to each camera, so that they appear in the correct order in the 16 way split screen layout.



5. Click “Accept”, then Click “Apply”

2.2 Constant record setup

2.2.1 Camera set up for Constant record mode

Use the SmartManager utility supplied with the VK2 cameras to set Stream 1 to the required Resolution, Frame rate and Bit-rate. Note, the parameters set across all camera on the system must not exceed the through put figures shown in Table 1 below:

	IP Cameras					
	D1		HD 720P		HD 1080P	
QNVR	max. Cameras	Total Recording frames	max. Cameras	Total Recording frames	max. Cameras	Total Recording frames
	16	640 ips	16	320 ips	16	160 ips

Table 1

Note: It is possible to view a different lower resolution higher update, Live stream to that that is being recorded, both on the local monitor and remotely over a network, in this case it is recommended to set Stream 3 to this lower resolution.

2.2.2 QNVR set up for constant record mode

Once the camera's stream parameters have been set, and the cameras have been discovered by the QNVR, the QNVR must be set to record in the desired way. For Constant recording, the following steps should be made:

1. Check that Normal (TL) stream setting is set to Stream 1.
2. If Live viewing is to be done in a lower resolution, check that IP Camera > Basic > Live stream is set to Stream 3.

2.3 Event Boost record setup

2.3.1 Camera set up for Event Boost record mode

Use the SmartManager utility supplied with the VK2 cameras to set up the Event Boost feature, this is found in the Event section of the cameras set up menu.

It is necessary to:
1. Define the type of event input that will trigger the camera: Event > Event in
2. Define the stream parameters (Stream 1) for Non-Event and Event situations: Event > Event out
3. Link the Input to the Output in the Event Map: Event > Event Map

For more details refer to the camera installation manual.

2.3.2 QNVR set up for Event Boost record mode

Once the camera's stream parameters have been set, and the cameras have been discovered by the QNVR, the QNVR must be set to record in the desired way. For Event Boost recording, the following steps should be made:
1. Check IP Camera > Basic > Normal = Stream 1
2. Check IP Camera > Basic > Motion = Stream 1

3. Check IP Camera > Basic > Alarm = Stream 1
4. Set IP Camera > Basic > Schedule = AL+M+N1

If Live viewing is to be done in a lower resolution, check that IP Camera > Basic > Live stream is set to Stream 3.

2.4 Stream Switching record setup

2.4.1 Camera set up for Stream Switching record mode

It is necessary to configure both Streams 1 and 3 in order to be able to operate in this mode. To do this use the SmartManager utility supplied with the VK2 cameras to set up the both streams by completing the following steps:

1. Set Stream 1 to be the Event rate stream, normally the higher resolution / higher frame rate setting.
2. Set the resolution of Stream **2** to the desired resolution of the Non-Event stream. (All other Stream 2 parameters are not relevant)
3. Set Stream 3 resolution to “Follow Stream 2”
4. Set the required Bit rate and Frame rate for stream 3
5. Next set up the event type in the camera that will cause the stream switching, this can be one of various types such as: hard wired alarm input, motion detection, or a software trigger. Use the Smart Manager utility supplied with the camera.

2.4.2 QNVR set up for Stream switching record mode

Once the camera’s stream parameters and event options have been set, and the cameras have been discovered by the QNVR, the QNVR must be set to record in the desired way. For Stream Switching recording, the following steps should be made:

1. Set IP Camera > Basic > Normal (TL) = Stream 3
2. Set IP Camera > Basic > Motion = Stream 1
3. Set IP Camera > Basic > Alarm = Stream 1
4. Set IP Camera > Basic > Schedule = AL+M+N1

2-5. IP CAMERA menu overview

2.5.1 Basic

Channel – This is the logical number that the camera is allocated during the discovery section

Status – “Connected” means the camera is enabled, “Disconnected” means the camera is disabled.

Model – This shows the specific model number or ONVIF dependant on how the QNVR recognized the camera during discovery

IP Address – The IP address of the camera

HTTP Port – This is the port number used by the NVR and camera to communicate using Hyper Text Transfer Protocol

RTSP Port – This is the port number used by the camera to transmit video using Real Time Streaming Protocol

Protocol – this is the Protocol used to connect to the camera – generally ONVIF

Live Stream – this is the stream used to view live images on the local monitor and over the network

User – This is the user name for logging into the camera

Password – This is the password used to log into the camera

Discover devices – Click this button to open the camera discovery menu, see section 2.1 Camera Discovery and connection for more details.

Information – This box shows data about individual stream available from the camera.

2-6. Normal (Time Lapse)

This configures the various recording settings per channel in the normal record modes 1 to 4.

Normal (TL) 1 to 4 is set up by selecting each option via these arrows.

Each channel can be individually configured for recording stream and Audio on/off.

Select the stream & audio to record.

Click the “Copy Camera Setting” box to copy the recording settings from one channel to other channels. Select the source channel, and click the target channels to copy.
Click the OK to copy.

2-7. Alarm

This configures the various recording settings per channel in the alarm record mode.
There are 16 sensor inputs on the rear of the NVR, these can be used to initiate the alarm record mode. Will need to change screen shot

The stream, audio are set up in the same way as the normal recording.

Preset on Alarms – Note: Only available on RS485 Telemetry

You can enable PTZ cameras to move to a preset position when a sensor alarm occurs.
A Single Alarm input can be used to drive up to 4 PTZ cameras to preset positions or Preset tours. Click the Set icons below the Preset On Alarms label.

Select the operation(preset or tour) of each PTZ camera when the alarm occurs.

The sensor inputs on the rear panel can be configured to be normally open (N.O), normally closed (N.C) or None.

Note screen shot will need to change

Alarm Timer Will need to change screen shot
This allows you to set the time duration of an alarm event;
-**Acknowledge**: The alarm event needs to be cleared by the operator
by clicking the mouse.
- **Time out**: The alarm event clears after a predefined period after event ends .
- **Transparent**: The alarm event clears when the event clears

Keyswitch

A single alarm input can be selected to be a control switch, to turn alarm on or off globally. This allows a final exit key switch to be used to manually arm the inputs.

2-8. Motion

Motion on any channel can trigger recording of that camera.
This configures the various recording settings per channel in the motion record mode.
The stream, audio are set up in the same way as the normal and alarm recording mode.

Sensitivity

The sensitivity of motion detection, there are 10 levels ranging from 1(low) to 10(highest).
It is recommended that each level is tested to find out which one suits that particular camera site. The motion detection is not recommended for external cameras.

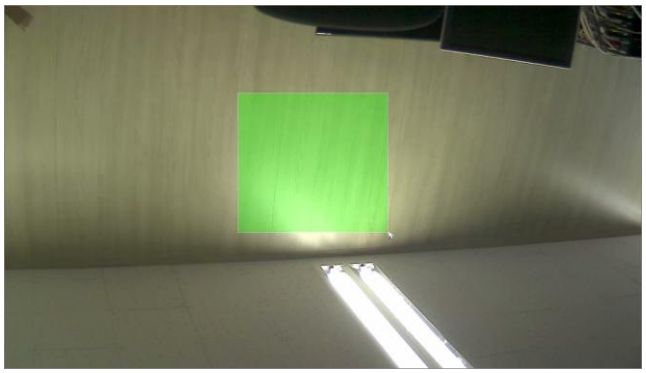
Post Duration

This allows you to set the time in seconds to post-record after the actual motion recording has ended. Up to 99 seconds can be set.

Setting the motion detection area

Note: this sets a detection zone in the camera. (Not the NVR)

To setup the motion detection area per channel, click the “Set” button.



The motion detection area allows you to highlight areas where you would like motion to be detected in. To create an area, left click the mouse, hold and drag it to create the motion detection area.

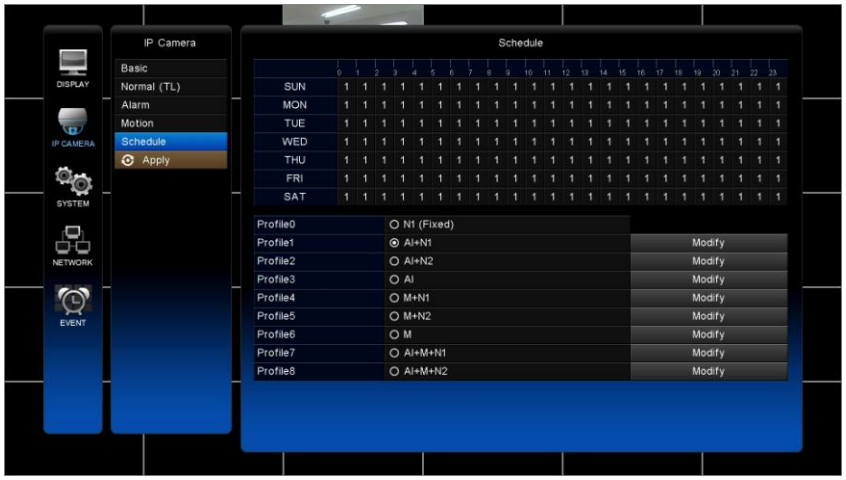
Click the right button on the mouse, the pop-up menu appears.

Check the area number to store the motion detection area, click “Accept and Exit”.

You can set the motion detection area up to 8.

2-9. Schedule

The Schedule mode allows the operator to tailor the recording characteristics of the QNVR to each individual hour of the week. As default the Schedule is set to record in Profile 1 (Al+N1 : Alarm + Normal Time Lapse mode 1)



To program the schedule to each sites individual requirements, use either keys on the front panel or more easily via the mouse.

***Note*:** "AL+M+N1" means that the priority settings are Alarm top priority, Motion 2nd and Normal Time lapse1 is 3rd.
***Note*:** Profile 0 cannot be changed. It is always Normal Time Lapse 1 (N1).

From the mouse
To amend the Profiles priority settings click on the Modify box, the following screen will be displayed.

Change the priority listing to suit the schedule requirements. Each priority level can be selected to be any of the following:

Alarm, Motion, Normal Time Lapse (1 -4) or None

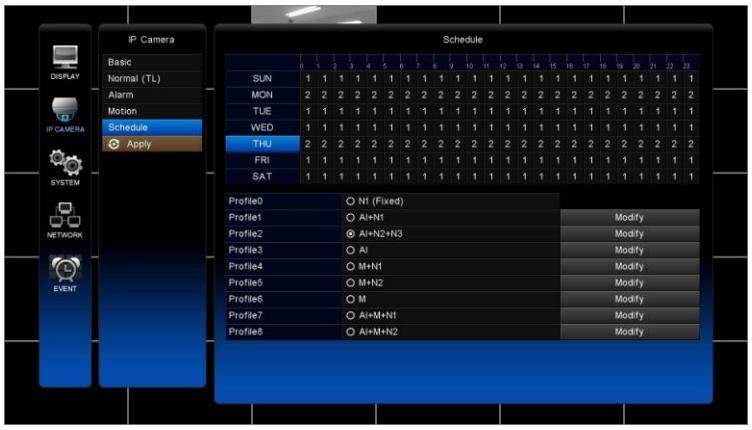
The record mode at the top of the list is the one that takes priority.

In the example above Alarms will take priority to over all else. So when an alarm input is triggered the record setting for that input will be used.

If there are no active alarm inputs, then the NVR is looking for cameras with motion in the scene, when motion is detected then the Motion Record settings will be used.

If there are no active alarm inputs and no motion is detected, the NVR will record using the Normal Time Lapse 1 settings.

Once the priority settings for all the require profiles have been set, then the timetable can be programmed for the periods during which each profile is to be used.
To select the hours of the week that each profile is to be used, click in the tick box for that profile, then click drag on period within the timetable. The Profile number will appear in the selected boxes, as shown in the next table.



Click the “Apply” to save and exit.

From the front panel
Setting of the schedule profiles can be carries out using the front panel of the NVR, referring to the images in the previous section use the following key presses.
Press the Select key to enter the Schedule set up screen.

Amending the profiles priority settings

Select the Modify box using the Up/Down/Left/Right key to display the priority settings and press the Select key.

Select the priority number using the Up/Down key and press the Select key.

Change the priority settings using the Up/Down key and press the Select key.

Press the Down key to move to OK and press the Select key to confirm the changes.

Change the priority listing

Select one of the profiles using the Up/Down key and press the Select key.

Navigate to required hour on the time table using the Left/Right/Up/Down key.

Press the Select key to change the profile number.

Press the Menu key to confirm and exit.

3. System

3-1. Basic

User can set Language, Auto Delete Mode, Date Format, Time/DST Set and VGA resolution. Also Initialisation and system Information is available.

Language

The default is English. Italian, French, Hungarian, Slovak, German, Russian, Chinese, Dutch, Spanish, Portuguese, Japanese, Danish and Polish are available.

HDD Overwrite

Generally this should be set to on to ensure that the NVR does not stop recording when the hard drives are full.

Auto Delete Mode

Auto Delete Mode can be set to automatically erase recorded older than a certain number of days. This can be set between 0 and 99 days.

Date Format

The default is dd-mm-yyyy. Other date formats available are: mm-dd-yyyy / / yyyy-mm-dd.

Time/DST Setting

The NVRs time can be set by clicking on the time and date displayed in this section, the on screen keyboard will appear. Set the time and date and click OK, next select the country to enable the Day Light Saving mode.

If the country does not appear in the list, use the User define option.

Note **: Playback following time change**

The NVR uses the time and date to index video on the hard disk drive so you can find it later. Changing the time can cause the NVR to work improperly, when you try to play back video. If you set the hour ahead, this is not a problem. But, if you set the hour back, there will be more than one recording with the same time stamp.

Such as during the October Daylight Saving Time changeover, if you try to search for video between 1 am and 2 am, the recorder may not operate properly because there will be two hours of recorded video during this time period. To view video during this overlapping time period, you must start playback before 1 am, then recorder will play both hours between 1 am and 2 a.m.

You cannot do a backward search through the overlapping time. But, you can do forward search.

IR Remote Address

The remote control can be used to control up to 16 QNVRs, the ID number on each can be set to a unique address so that the remote will only control one at a time if they are in close proximity. The default is 11.

Repeated click on the ID value to change to the required number.

To select a unit on the remote control press the ID button, followed by the number, followed by the ID button again. The LED will flash slowly.

VGA resolution

The VGA resolution can be set from 1024x768 to 1920x1080.

HDMI resolution

The HDMI resolution can be set to 1080i, 1080p and Auto.

Initialization

All the menu settings will be returned to the factory default. To carry out this function the system recording will have to be turned off.

Information

The Information Screen shows the hard disk size, current firmware vision, IP address* and MAC address*.

* IP & MAC address ;

1: Network port for IP camera **2**: Network port for PC client

3: Network port for NAS (For future development)

3-2. Disk

Format

Formatting of the drive is used when new drives are installed or you need to wipe all information on the disk.
Click on OFF to turn to ON, then click on Execute, click YES, to confirm

E-SATA Function

This allows the E-SATA port on the rear panel to work as the port for storage(Internal HDD) or backup(Manual Archive).

Smart

This function is used to keep a check on the health of the Hard disk. The parameters which can be monitored are:

- Read/Write errors on the drive
- Drive temperature.

Smart : Turn to on to enable feature
Temperature : Using the on screen keyboard set the temperature at which the warning is to be reported. (recommended setting 45℃)
Message : The message box can be turned on or off to give a visible warning. Alternatively and E-mail; can be sent if any problems occur.

3-3. Account

The NVR can have the following different levels of operators, each with different users rights and passwords:

Admin level : Operators logged in at this level has full rights
Manager level : Operators logged in that this level as default have access to all except: Stopping Recording and Shutting down the NVR.
Users 1-25 : Operators logged in at this level only have the ability to search and play, control PTZ cameras and get access via the network.

Each users rights, can be individually tailored to their own requirements, the amending of these rights can only be done by an Administrator level log on.

Amending operators settings and user rights

Click on the box beside Level, this will step through the 27 Operator set up pages, chose the operator required.

The operator ID & Password can be changed using the on screen keyboard.

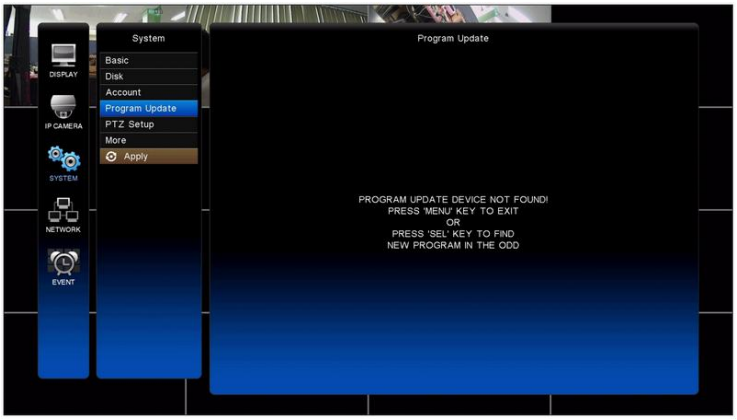
The operator's user rights can be amended:
Menu – Allows access to the menu
Play/Search – Allows access to the Playing back and Searching
Archive – Allows the ability to download information
Rec – Allows the ability to turn off recording
PTZ – Allows the ability to control PTZ cameras
Network – Allows the ability to view remotely with the client software
Covert – Allows the ability to view coverted cameras
Shutdown – Allows the ability to turn the power off from the front panel
Set Preset – Allows the ability to preset the position of PTZ camera
Channel – Allows the ability to see channels via network
Once the above has been set, ensure that the Activate box has been ticked.

Automatic timed log out
The system can be set to automatically log out a user after a certain amount of time if no key presses have been made. The operator level has to have been activated before this can be set.
Click on the boxes adjacent to “Local” for the time out period for operation from the front panel. Click on the box adjacent to “Client” for the time out period for operation from the client software. This can be set to either: Off, 15 mins, 30 mins or 1 Hour.

Archive log access
Access to the archive log is password protected, use this section to amend the password per user. This will allow traceability of which user has downloaded information.

3-4. Program Update

Always turn off: Recording, Playback and Network access while upgrading the unit



The latest firmware version can be upgraded through USB 2.0 port using memory stick.

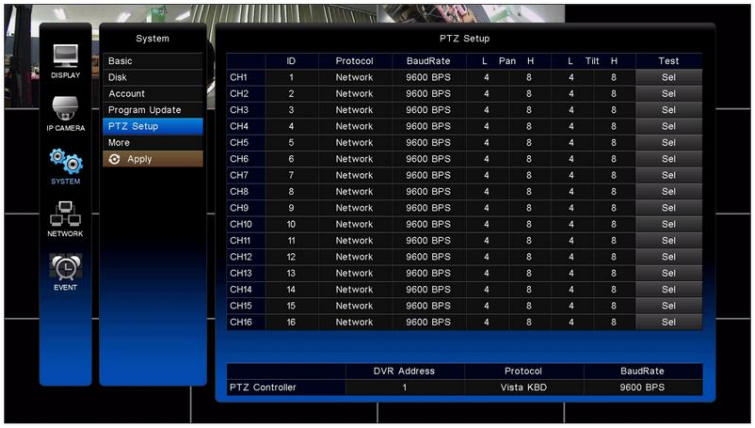
When a memory stick is connected to the USB port, this symbol () will be shown in the status bar of the screen.
Enter “Menu” >> “System” >> “Program Update”. If the system recognizes the new firmware then, “New program found” will be displayed on the screen.
Next press the “SELECT” button, processing percentage will be displayed.

NOTE

1. If the system doesn’t recognize the new firmware, “New program not found” will be displayed.
2. For system stability, please turn off 1) recording 2) playback 3) network connection during upgrading.
3. After updating program, reboot the NVR. The simplest way is press the Power button and enter the password.

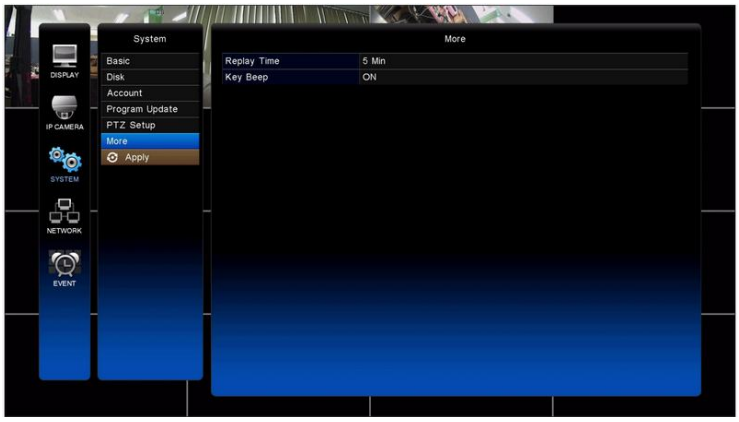
3-5. PTZ Setup

The NVR can control PTZ cameras via network or a RS485 connection on the rear of the NVR. The cameras can have individually selectable protocols with a choice of Vista PD, Pelco P or Pelco D. The Baud rate can also be selected.



PTZ Controller
The NVR needs to be setup to accept the VKBD3im or VKBD4 keyboard, as a default this will be set to the correct protocol and baud rate.
The NVR address – This sets the RS485 Address of the NVR.
The Keyboard ID should not be the same as the NVR, see keyboard manual for addressing.

3-6. More



Replay Time
It is possible to play back again from the scene of previous time (1 minutes to 60 minutes).

Key Beep
The NVR beeps whenever the button on the front panel is pressed (On/Off).

4. Network

If the NVR is connected to a network, this icon ( ) will be shown in the OSD display.
This menu can only be accessed if the user has the necessary rights. (Default password is 00000000).

With in the Network menu the DDNS (Dynamic Domain Named Server), IP addresses, NTP and Live can be set.

4-1. Basic

IP Set
When a fixed IP address is being used, the Use Dynamic IP should be set to NO
The IP Address, Gateway and Subnet Mask need to be set, these will generally be given by the Network Manager.
DSL refers to all types of Digital Subscriber Line such as ADSL and SDSL.

DDNS Set
DDNS is a service that maps Internet domain names to IP addresses. DDNS serves a similar purpose to DNS: DDNS allows anyone hosting a Web or FTP server to advertise a public name to prospective users.
Unlike DNS that only works with static IP addresses, DDNS works with dynamic IP addresses, such as those assigned by an ISP or other DHCP server.
What this means is that the NVR does not need a Static IP address to be available for viewing remotely over the World Wide Web.
Please refer to Appendixes 1 on how to set up the DDNS service.

[Common Setting]

DVR/Web Port
The DVR Port and WEB Port can both be changed if required, default are 2000, and 80 respectively.

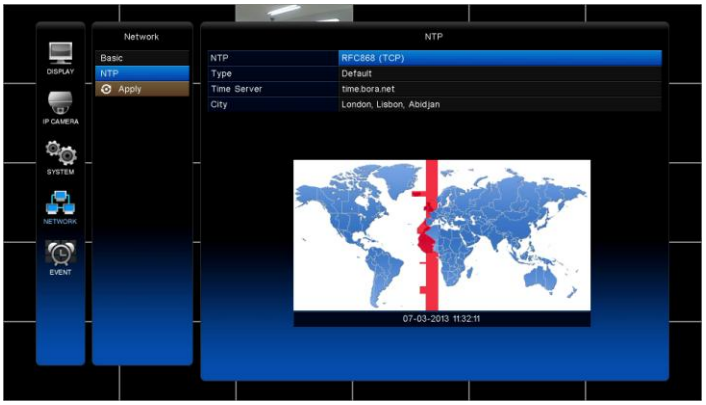
Bandwidth
It is possible to set maximum limits for the bandwidth utilisation on the network port of the unit.

Main Port
It allows the selected network port to work as the port for NTP, e-mail.

4-2. NTP

The Network Time Protocol Setting allows the NVR time to be synchronised with an external time server. The default is NTP OFF.

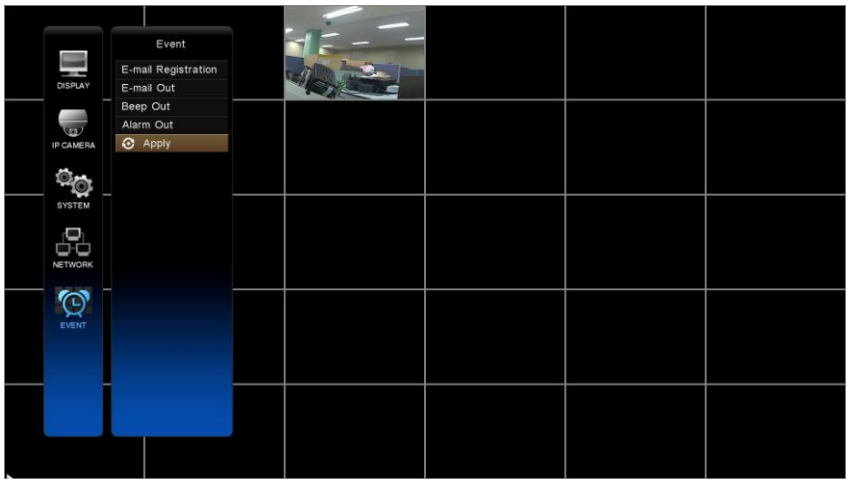
When turned on the Type of service can be selected, options are Default (time.bora.net), Domain and IP.



The Time zone can also be chosen within the City selection.

5. Event

This section is used to inform the user as to an event occurring, this can be by the sounding of a buzzer or by sending an E-mail to a predefined address.



5-1. E-Mail Registration

Within this section up to 6 users can be set-up to receive an email on the occurrence of an event such as Video Loss / Alarm / Motion or Power Loss. An E-mail will only be sent if the DVR is sitting on a network with access to the Internet, e.g. through a router.

The e-mail addresses are set via the alphanumeric buttons on the front panel, or from the on screen keyboard via the mouse.

The Sender Address is the address that will appear on the E-mail received by the user, this should be set logically to identify the specific DVR.

The report period is used to set how often e-mails are sent: Immediately on and event, Daily or Weekly

Start/End Time : Enable to send e-mail notifications only for events that occur within a

specified range of time.

Send Test Mail : Enable to send a test E-mail to the addresses so allowing the installer to verify if the setup is correct.

SMTP Mode

The SMTP (Simple Mail Transfer Protocol) function allows e-mails to be sent over a LAN
The default is SMTP Mode “OFF”.
In order to activate SMTP Mode, choose SMTP Mode either IP or Domain first.
Then, put ID, Password, IP address, and port.
Finally press “SMTP Status Check” to test.

5-2. E-mail Out

As well as e-mail on event activations the NVR can be set to send a report on the following occurrences: Video Loss; Alarm; Motion: Power Loss and Smart (Hard disk monitoring).

The video loss, alarm, motion can be set each user, channel.
Press the Set box and tick the box.

5-3. Beep Out

The buzzer can be set to sound on the following occurrences: Video Loss; Alarm input; Motion detection; Power Loss; Smart (Hard disk monitoring).

The duration of the beep can be set.

5-4. Alarm Out

The Alarm out relay can be set to activate on the following occurrences: Video Loss; Alarm input; Motion detection; Power Loss; Smart (Hard disk monitoring).

The duration of the activation can be set.

Relay Follower

A relay can be set to close each time a camera is selected.
This relay closure can be used as the Alarm input to a switcher, such as the VS042A. If the Monitor outputs from several DVRs are taken to the inputs of this switcher, then each time a camera is selected, the switcher will change it's output to the relevant DVR monitor picture. This allows the full screen images of several DVRs to be viewed on a single monitor.

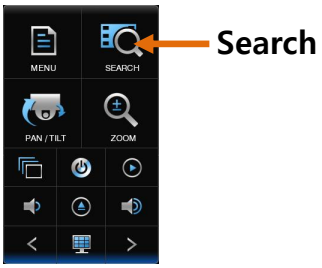
Relay Control

Normal = Relay will close when an alarm activation is received
On = Relay permanently active
Off = Relay not active

Search Menu

1. Searching Recorded Data

The user can search the recorded video on the DVR to find a specific time or event.



To access the search option, click the SEARCH icon on the popup menu.

To access the search option, press the SEARCH button on the front panel or right click the mouse and select Search, (A password may have to be entered) after which the following screen will be displayed.

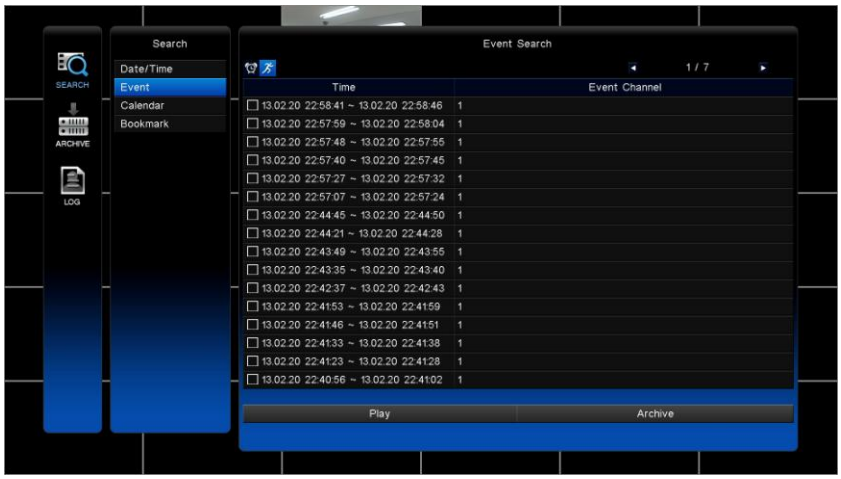
1-1. Date/Time Search

If you select date/time search, the following will be shown. Use the numerical number on the front panel or the mouse to select the time and date required, then press the Play button.

1-2. Event Search

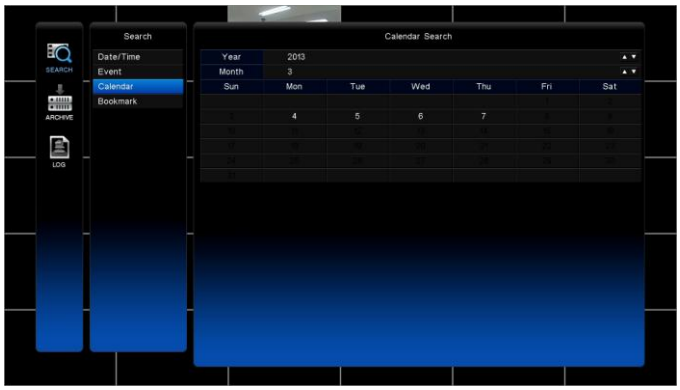
This allows the user to select between ALARM, MOTION or AUDIO. Select required option by pressing the right arrow, or selecting with the mouse.

ALARM – The search is for any alarm activation within the times defined.
MOTION – The search is for any motion events within the times defined.
AUDIO – The search is for any audio activations within the times defined.



1-3. Calendar Search

The Calendar search gives a graphical representation of when video is recorded on the hard drive.

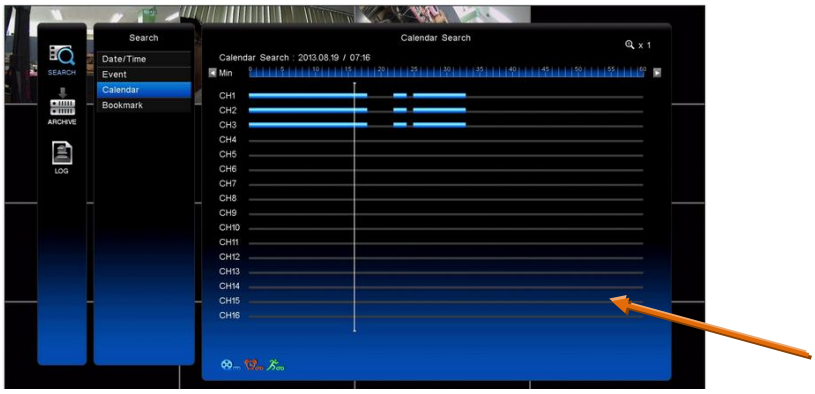


The year and month can be selected. This month is shown as a calendar on the screen, any day which contains recorded video will be indicated by a highlighted number in white.

Move to the desired day by using the up/down/left/right buttons, Select the day by pressing the SEL button.

The following screen will be displayed.

The hours which have recorded data are displayed as a coloured bar. Select the hour which you want to review, the following screen will be displayed.



The minutes which have recorded data will be displayed as a coloured bar, click on the time required; the recorded data will be played back from this point.

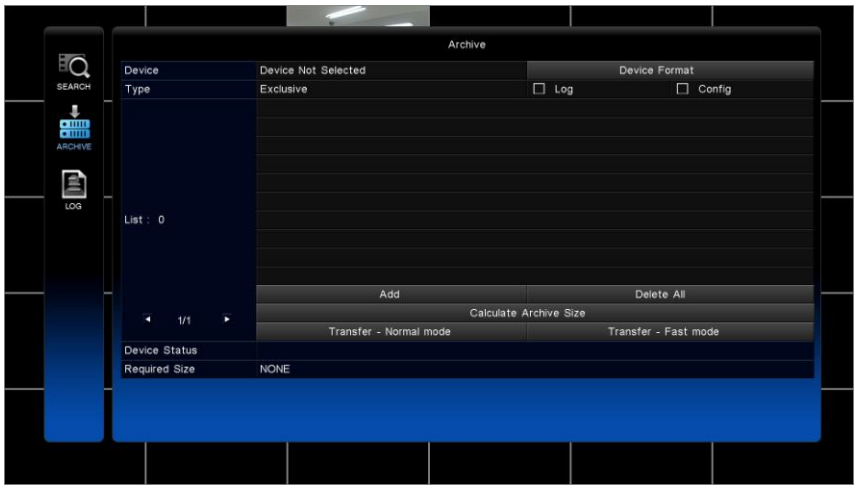
1-4. Bookmark Search

This allows the user to edit the bookmark.

2. Archiving Evidence to DVD/CD or USB

Once the required video has been found**,** it may be necessary to down load it for evidential purposes. This can be done either onto the internal CD/DVD-R writer or via the USB port on the front of the DVR.

To do this press the SEARCH button and using the down button move to ARCHIVE, once highlighted press SEL, the following screen will be displayed.



Device
This allows selection between the internal CD /DVD-R writer and the FLASH option via the USB port, when highlighted use the right arrow to toggle between the options.

Device Format
Format for CD/DVD-R is not needed. When using a USB pen, the format should be done first.

Type
Exclusive : If evidence is downloaded as an Exclusive file, the DVR will download bespoke player software on to the CD / DVD or USB device along with the evidence. This means that no special software is required, by the reviewing PC. This format is secure and watermarked.
AVI : The evidence is downloaded as an AVI file, this backup file can be played on a PC using the well known media player like Windows media player.

LOG
The Log file can be downloaded from this menu screen, simply tick the LOG box and do not select any camera channels, then select transfer.

Config
The Configuration files for the DVR can be downloaded and saved.

[Adding the files to archive]
Press the ADD button, the following screen will be displayed.

From/ To
You can set up the start and stop time which is required to be backed up to the internal CD/DVD-R or USB device. Highlight this option, then press SEL, then use the alphanumeric buttons or the mouse to set the time and date. Repeat for the end time.

Channel
As long as the EXCLUSIVE file format is selected, the number of channels to be down loaded can be selected. Anything from a single channel to all 30 can be selected.

Modifying the archive list
Press the required file on the list, the pop-up window appears.
You can modify the time, channel.

Calculate Archive size
Once the time and date and file format have been entered, it is necessary to confirm that the size of file created will not exceed the size of memory available on the disk or USB device.
Move to Calculated Archive size and press SEL.
The DVR will then calculate storage space required for download file. This will be displayed in the Required Size section. As long as the Required Size is smaller than the Free/ total space, then move to Transfer and select it.

Transfer
When Transfer is highlighted press SEL, the downloading will start. Percentage done during downloading will be shown.
- Normal mode : The archiving speed is lower than that of the fast mode.
  The other operation like setting the menu is available during archiving.
- Fast mode : The archiving speed is higher than that of the normal mode.
  The other operation is not available during archiving.

NOTE Do not shutdown the NVR during the archiving process.

3. LOG

The log file contains information on the following:

All : Power, Record, Operation, Event, Archive
Power : Power on, Power off, Power fail
Record : Rec fail, Rec start, Rec stop, Rec error, Rec full
Operation : Play start, Play stop, HDD format, Menu set
Event : Alarm, Motion, Audio, Video loss, Email fail
Archive : This lists the USER, time/date when Archive was done, and time range of archived section.

A total of 5,000 events can be recorded the oldest being overwritten when a new one occurs, they can be viewed all together or as individual types.

Client Viewer software

Each DVR comes with license free viewer software to view the DVR across a network.
To be able to do this the recommended minimum specification for the PC is as follows:

Recommended PC specification

CPU : Intel® Core™2 Duo, E8500 @3.16GHz
RAM : DDR2, 4GB
Graphic : NVidia GeForce 9500 GT, 512MB
OS : Windows XP

Installing software

When you put Quantum Network installation CD into your PC, it will auto run and lead you through an installation wizard. Follow the instructions. Once the software is loaded it will automatically run.

1. Connection

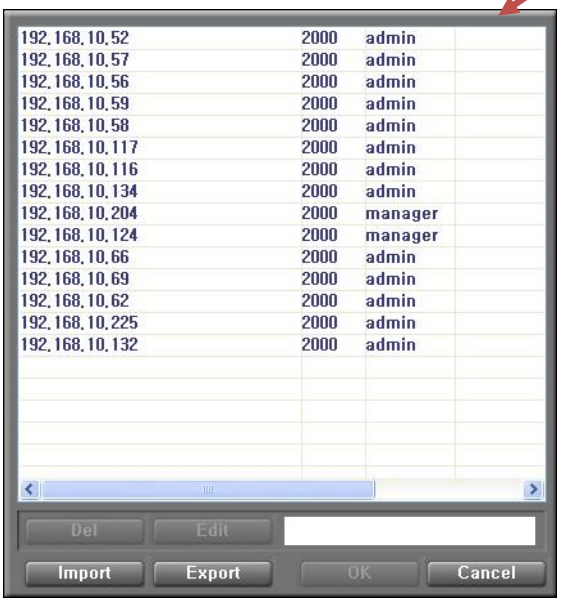
To connect to the Unit, open the Viewer Software and click the connection button ( ).

2. Logging on

The following window will appear.

To connect to the DVR, enter the units: IP address; DVR Port (2000 ids default), ID and Password. Then, click “OK”, to start the live monitoring.

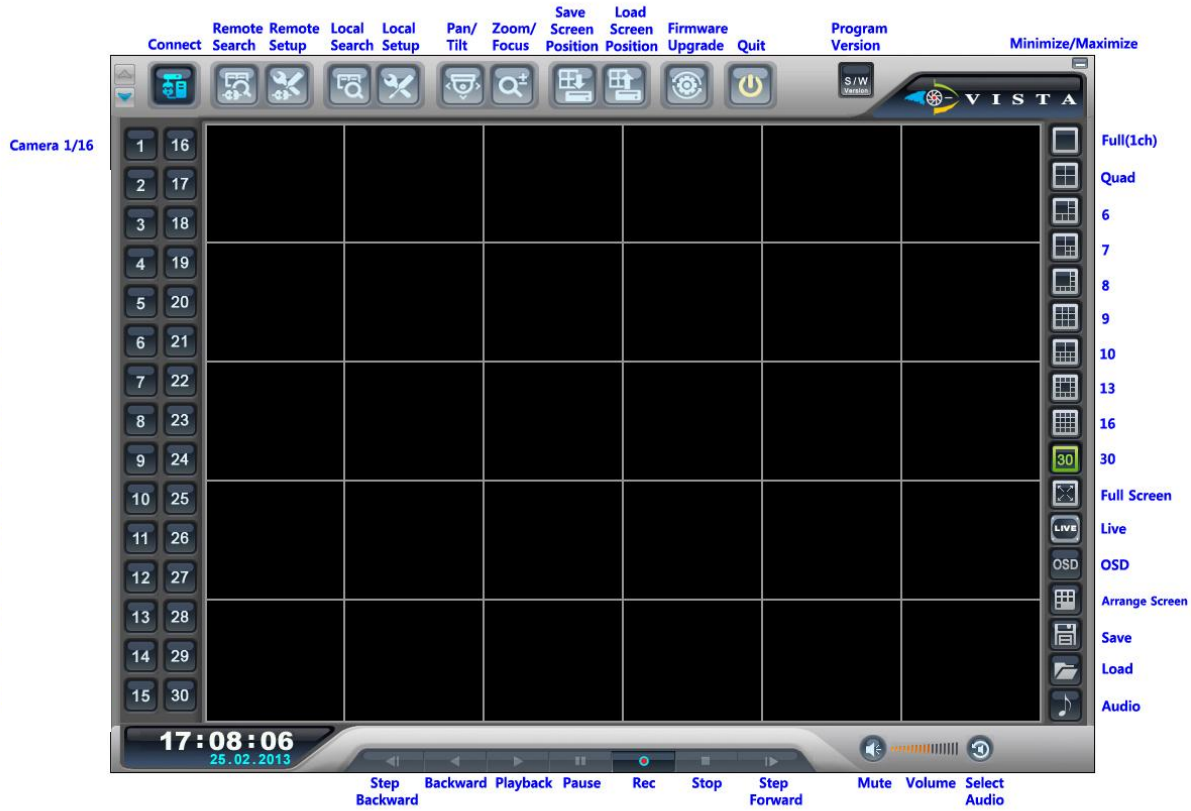
Description field is the name of area / Building / location of the DVR, this should be typed in he first time the unit is connected to, this will store it in the address book.



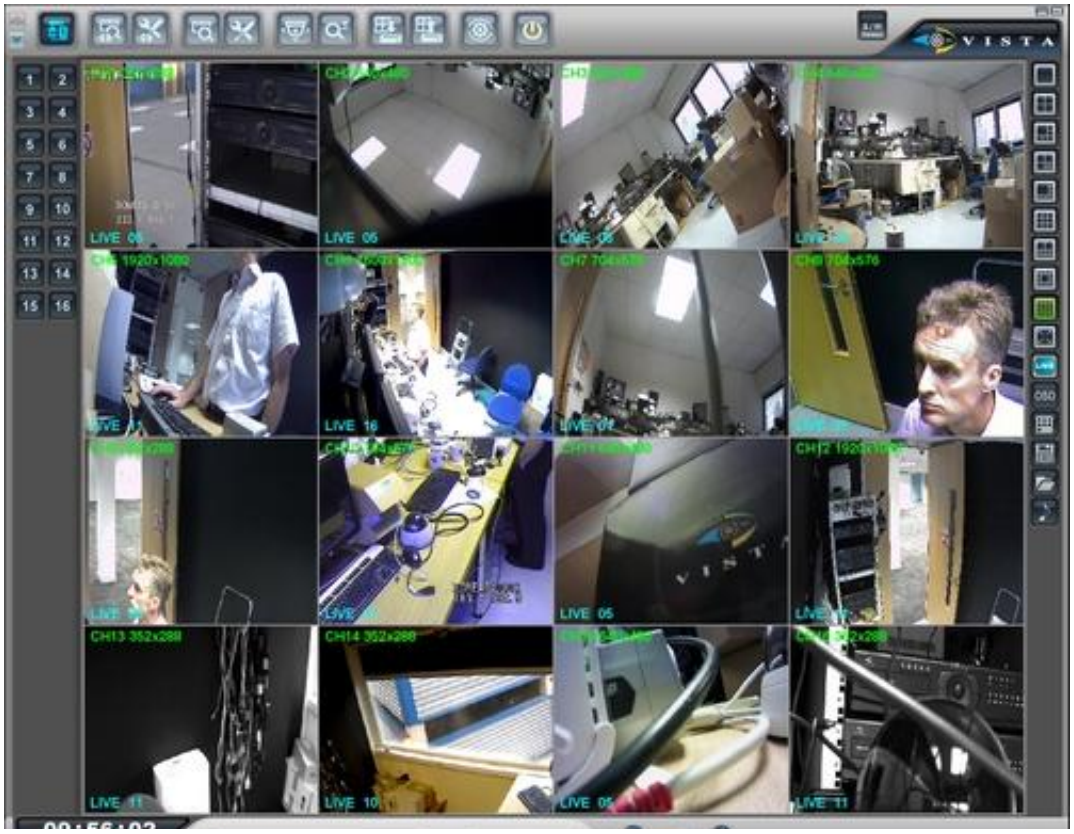
Address book

Click on the Arrow to the left of the IP address, the following box will appear. This lists the last 22 units that have been accessed. To reconnect to one of these units simply double click, then add the ID and Password.

3. Explanation of Screen Buttons



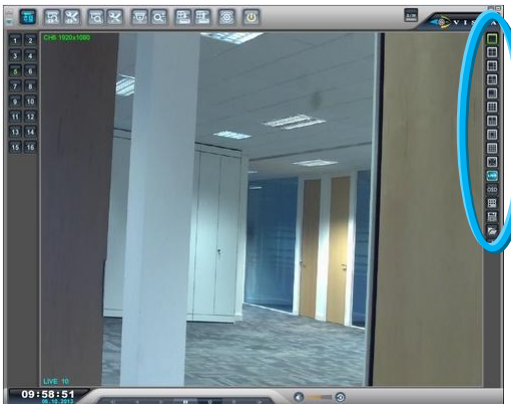
4. Live Monitoring



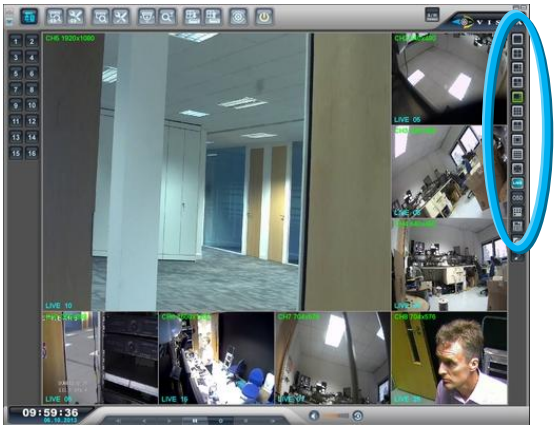
Split Screen options (1/4/6/7/8/9/10/13/16/30)

Spilt Screens can be viewed during both live and playback. The splits screens available are: full screen,4,6,7,8,9,10,13,16 and 30 way.

1) Single Screen



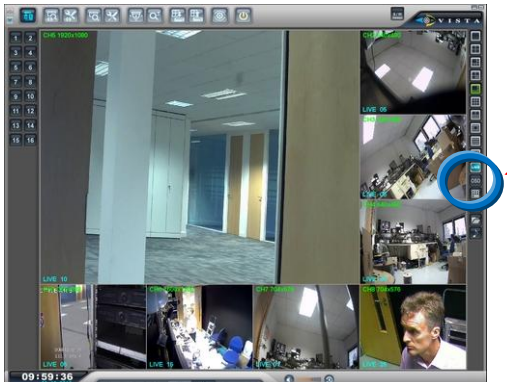
2) 8 Way Split Screen



Full Screen on/ off

When the full screen button is selected, a tool bar offering the various split screen options, and the Exit key will be displayed at the bottom of the screen.

OSD on/off



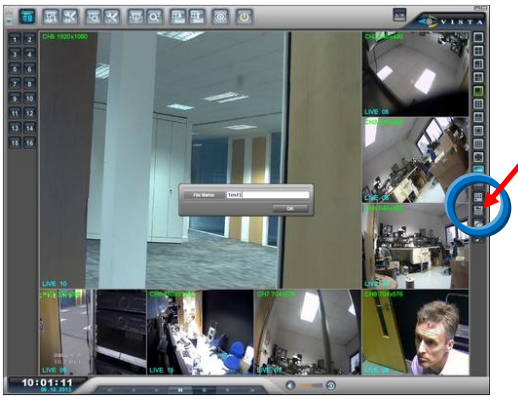
The OSD button will toggle between the on screen titles etc being shown or hidden

(Smart) Arrange On/Off

If cameras are being displayed in segments that are not logical, the Smart button will rearrange and put camera input 1 into segment 1 (Top Left) etc.

Image Save / Load

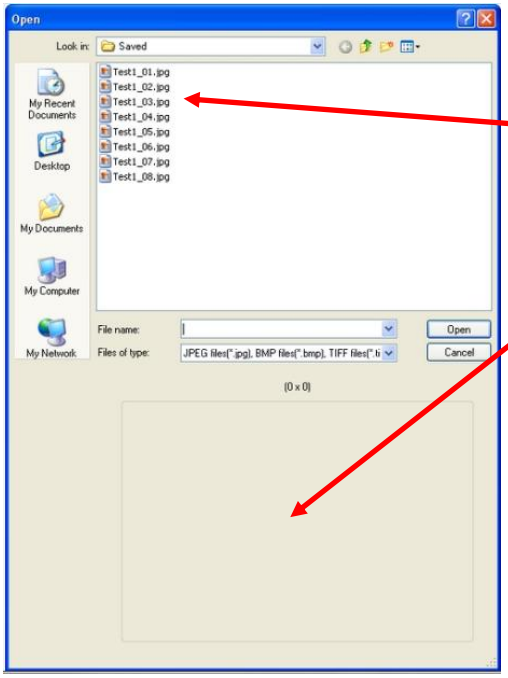
Still images being displayed at any point on the live or playback screens can be saved to a file on the PC, to save images click on the save button:



A box will appear allowing the naming of the files, if a multi-screen image is showing on screen then a still image from each of the displayed channels will be saved in either JPEG, BMP or TIF format

The still image is stored as default in C:\ HNClient: Saved folder, as a Jpeg image using the date and time as the file name.

To retrieve and view the images click on the Load icon the following screen will be displayed:



Select a file from the list, a preview will be shown lower box.

Playback (Step Backward, Backward, Playback, Pause, Recording, Stop, Step Forward)

Audio (**Mute, Volume, Select Audio, Microphone**)

 Select Audio: Toggles through audio channels.

5. Remote Search

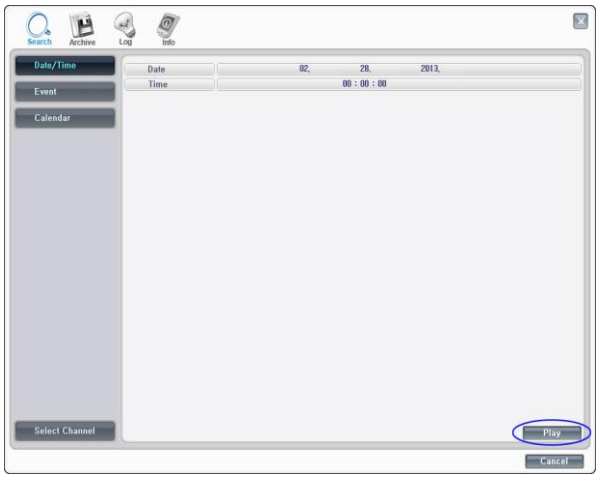
Search(Date/Time/Event/Calendar), Archive(Remote Archive), Log(Remote Log) are available.

5-1. Search

This Remote Search is able to play back video on the PC direct from the hard disk storage on the DVR. There are 3 options for as follows.

1) Date/Time
2) Event
3) Calendar

Date/Time Search

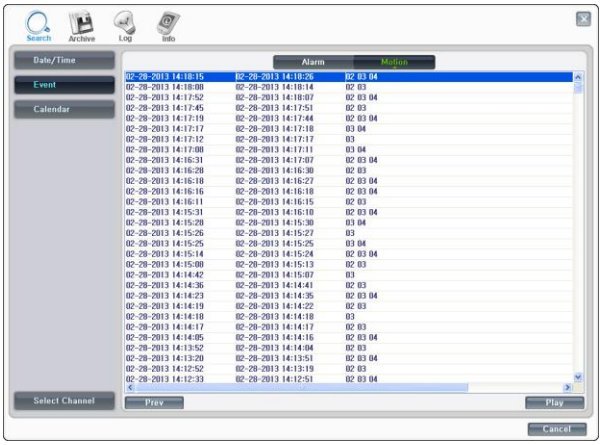


When the cursor is placed over a part of the time and date a drop down arrow will appear, use this to set the required value.
When set.

Click “Play” button, this window disappears and Remote Playback will start.

To stop playing back press Stop  the search screen will appear to allow another search to be carried out, if not required, click cancel followed by live.

Event Search



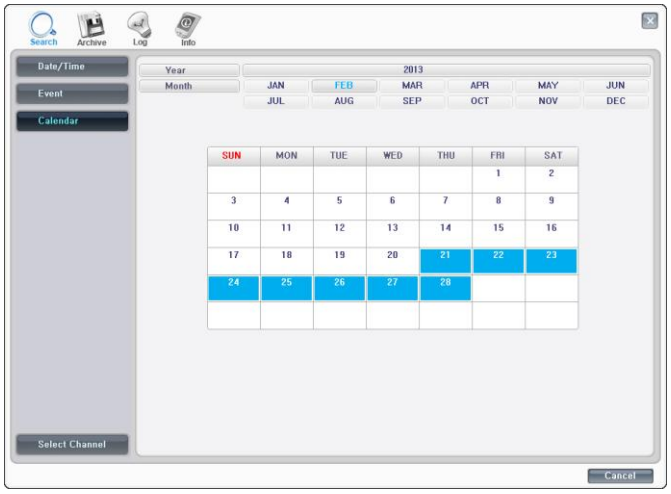
Click on the Event button on the right hand side, the software will search for all event types. This may take a short while.

A list of the available events will appear. To play an Event select it and click Play.

To stop playing back press Stop  the search screen will appear to allow another search to be carried out, if not required, click cancel followed by live.

Calendar Search

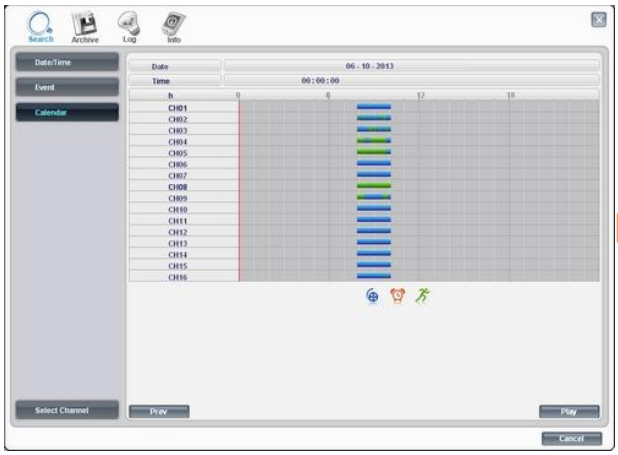
Select the date required (as long as the date is highlighted in Blue there is recorded data on from that day).



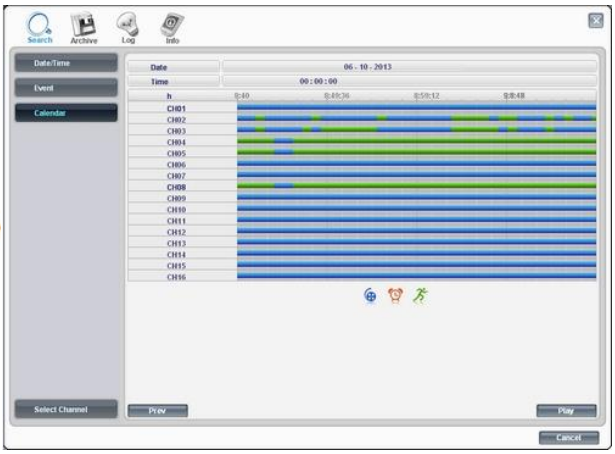
There are 3 options for selecting the required time once the date has been selected.

1) Drag the Red line along the colour bar (I.e. Blue: Normal Recording) till the required time is reached.
2) Click on the required time for playback on the blue bar then the red line will move to this point.
3) Hover over the time box, a drop down arrow will appear allowing the manual selection of Hours, mins and seconds.

Next click the “Play” button for Remote Playback. Or, click “Prev” to go back to previous stage.

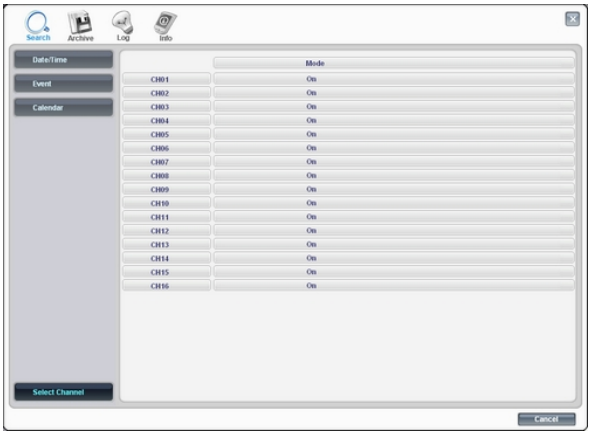


Hours of the day



Minutes in the hour

[Select Channel]



Channels can be included or excluded dependent on query. This is available within Search, Backup and Logs.

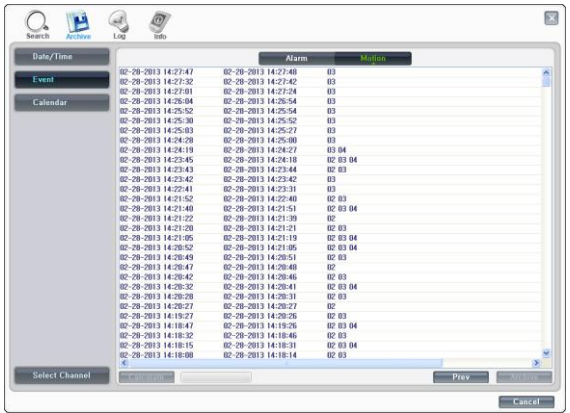
5-2. Archive

Remote Archive – Date/Time

Enter the Start and End dates and times, by hovering over the selections, a drop down box will appear.

Once selection is made, then “click” calculate, the file size will be displayed. Finally click “Archive”, the file will be transferred to C:\ HNClient \Download.

Remote Archive – Event



Select either: Alarm, Motion or Audio from the top of the screen. A list of events will appear.

Click on the event required, it will be come highlighted.

Click on Calculate, the file size will be calculated, this may take a few seconds.

Finally click Archive; the file will be transferred to C:\ HNClient \Download.

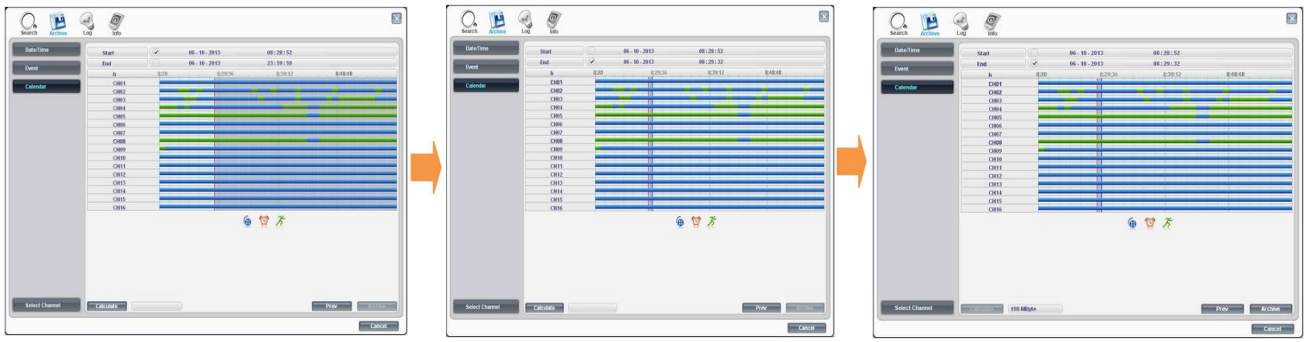
Remote Archive – Calendar

Select the date required (Days with recorded video a data present are highlighted in **Blue**)

There are 3 options for selecting the required time once the date has been selected.

1) Drag the Red line along the colour bar till the required time is reached.
2) Click on the required time for playback on the blue bar then the red line will move to this point.
3) Hover over the time box, a drop down arrow will appear allowing the manual selection of hours, minutes and seconds.

Then click the “Next” button to set “End” Archive time, in the same manner.



Click on Calculate, the file size will be calculated, this may take a few seconds.

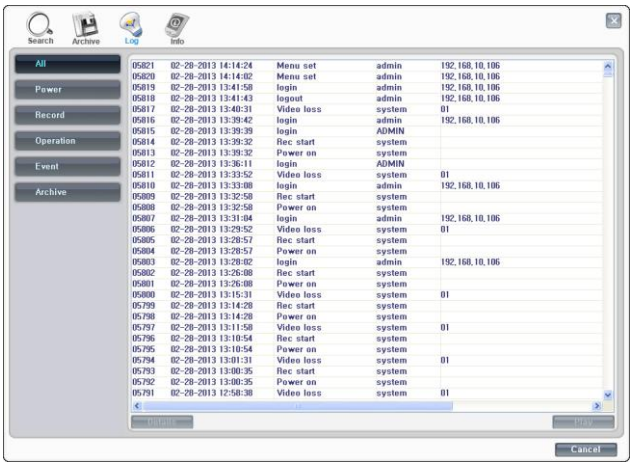
Finally click Archive; the file will be transferred to C:\ QNVR \Download.

[Play back down loaded files]

Open the viewer software but do not connect to a unit, click the cancel button to remove the log on box.

Next click on the Local search button () the normal search box will appear, use the same method to search the files on the PC and Play back

5-3. Remote Log



The Log file can either be viewed or printed.
The recorded Event can be played, by selecting it and clicking on Play.

The log list can be viewed as a whole or filtered by the following types :

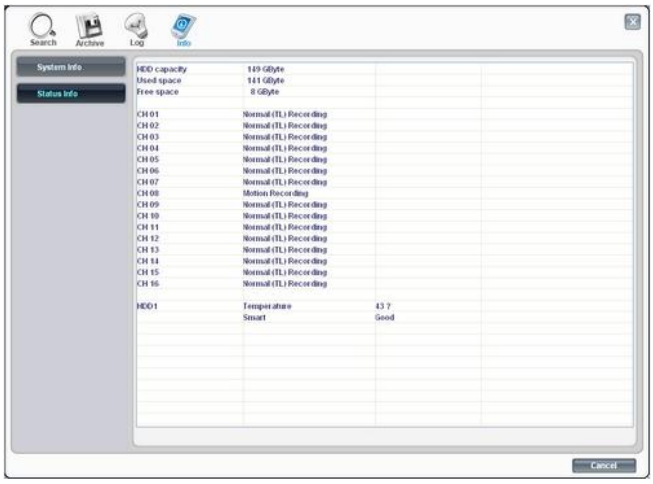
Power :	Power on, Power off,
Record :	Rec fail, Rec start, Rec stop, Rec error, Rec full
Operation :	Play start, Play stop, HDD format, Menu set
Client :	R_Login, R_Logout, R_Logfail, R_Play, R_Transfer, R_Rec on, R_Rec off, R_Upgrade
Event :	Alarm, Motion, Audio, Video loss, Email fail.
Archive :	This is a Password protected section, only available to users with the correct rights. Click on the Archive button a password entry box will appear, which has to be completed before the Archive log list will appear.

5-4. Information

System Information

The system info displays the Mac address and software version information.

Status Information



This shows the status of both the Hard disk and the recording modes of each channel.

6. Remote Setup (Menu settings - same as DVR)

6-1. Display

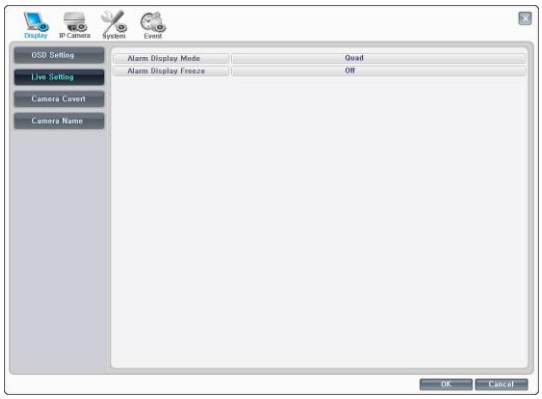
This is the same as the Display Menu of NVR, refer to setting the Display Menu of NVR.

OSD setting

The Symbols and text displayed on screen can be controlled:

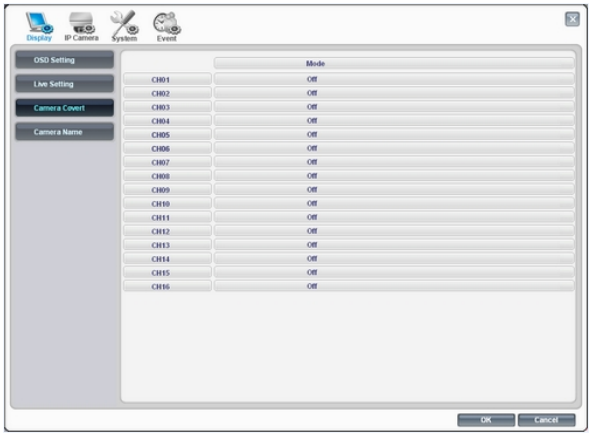
1. The status bar can be set to be off/ Always on or be on for 5 or 10 seconds after a key press.
2. The Event symbols such as Motion, Audio, Pan / Tilt can be displayed or turned off.
3. The camera name can be displayed or turned off.
4. The PTZ display can be made to time out
5. The Password entry box can be made to time out
6. The darkness of the status bar can be varied.

Live setting



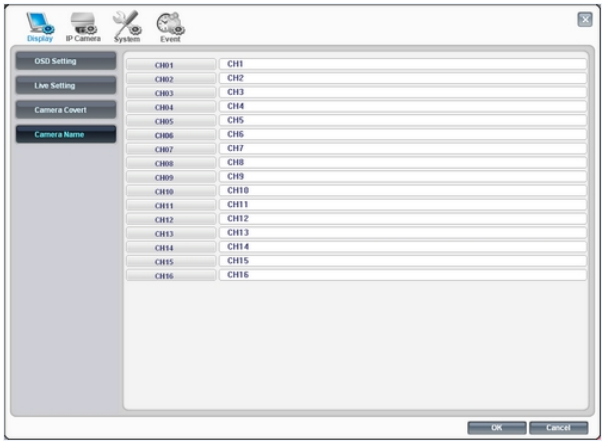
The live settings are used to set up a sequence of either full screen camera images or multi screen displays

Camera Covert



Cameras can be remotely set into Covert Mode, they are still being recorded but cannot be viewed local to the system, or by any remote user apart from the Administrator on line.

Camera Name

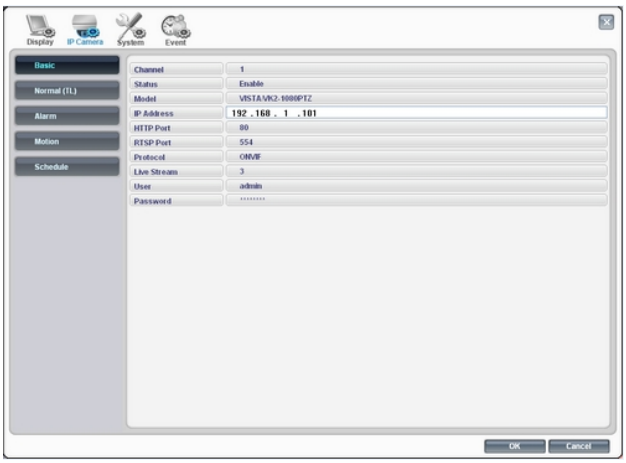


Up to 32 Characters are available for each camera name.

7-2. IP Camera

This is the same as the setting of IP Camera Menu of NVR.

Basic



This configures IP cameras.

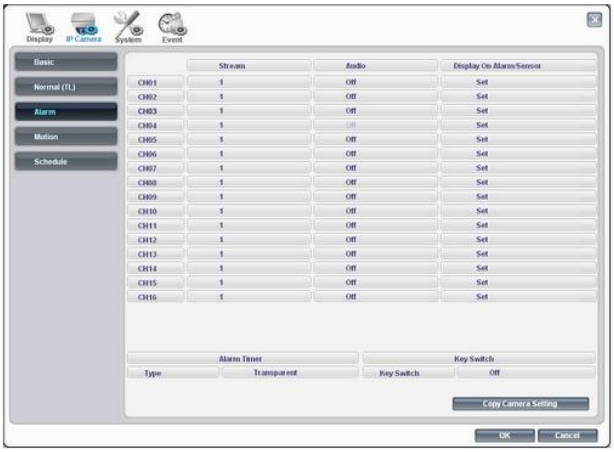
It allows you to set the IP address and parameters of IP cameras, like stream, resolution, frame rate.

Normal(Time Lapse)

This configures the various recording settings per channel in the normal record mode.

Each channel can be individually configured for recording stream and Audio on/off.

Alarm

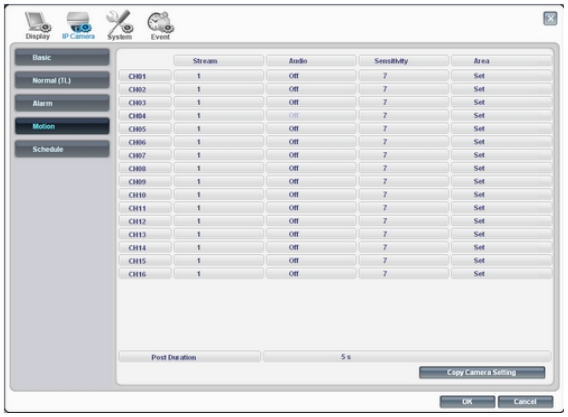


This configures the various recording settings per channel in the alarm record mode.

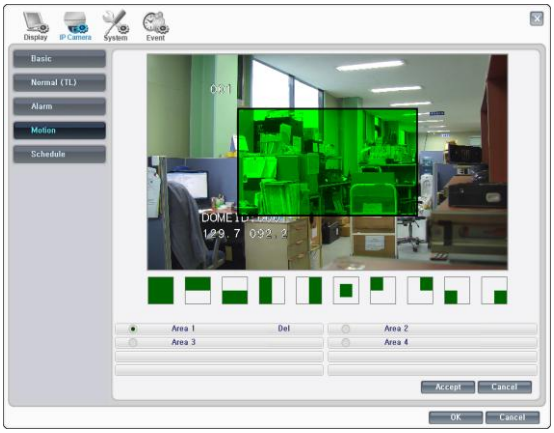
There are 16 sensor inputs on the rear of the NVR, these can be used to initiate the alarm record mode.

The stream, audio are set up in the same way as the normal recording.

Motion



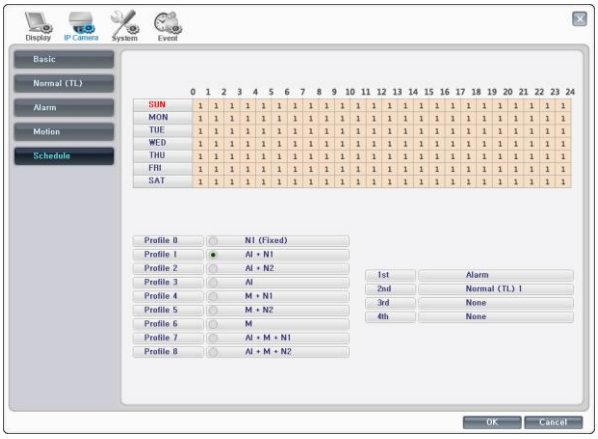
Motion on any channel can trigger recording of that camera.
This configures the various recording settings per channel in the motion record mode.
The stream, audio are set up in the same way as the normal and alarm recording mode.



Setting the motion detection area
The motion detection area allows you to mask out areas where you would like motion to be detected in. You can left click mouse, hold and drag it to mask the motion detection area.

Note: This sets the motion detection area within the camera, not the NVR

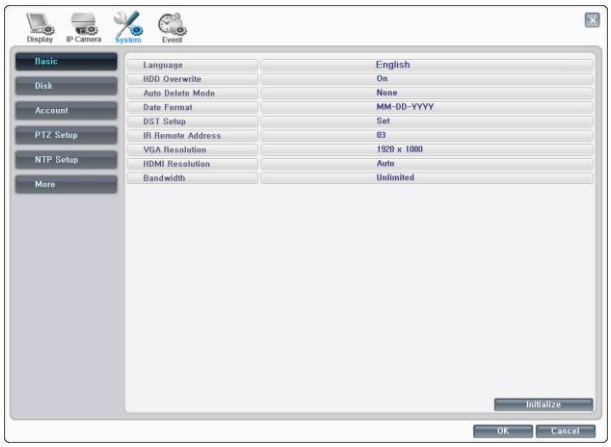
Schedule



The Schedule mode allows the operator to tailor the recording characteristics of the NVR to each individual hour of the week. As default the Schedule is set to record in Profile 1 (Al+N1: Alarm + Normal Time Lapse mode 1)

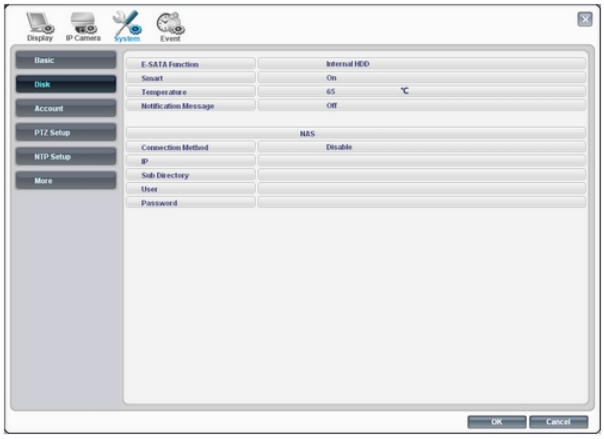
7-3. System

Basic



This section is used to select:
Language
Date format
DST Setup
IR Remote Address
VGA Resolution
HDMI Resolution
Bandwidth

Disc

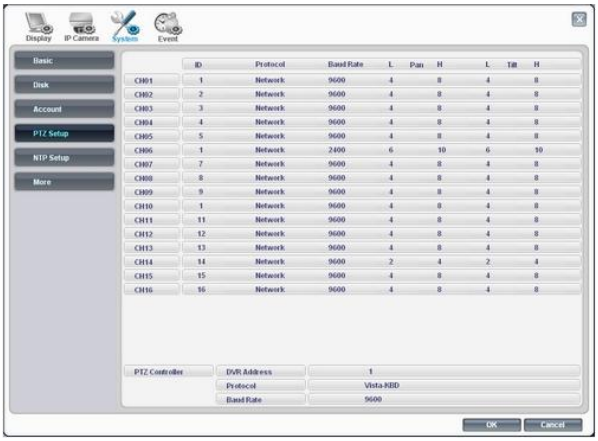


Format
Formatting of the drive is used when new drives are installed or you need to wipe all information on the disk.
E-SATA Function
This allows the E-SATA port on the rear panel to work as the port for storage or backup.
Smart
This function is used to keep a check on the health of the Hard disk.

Account

The NVR allows for :
1 Administrator level log on
1 Manger level log on
25 User level log on
Each of the 27 log-on accounts can be given individual passwords and user rights
To amend the Name and password, click on the name beside the Client Account box. This will display the name in the ID box and it can be edited and passwords changed and confirmed.
User rights can be applied.

PTZ Setup for camera

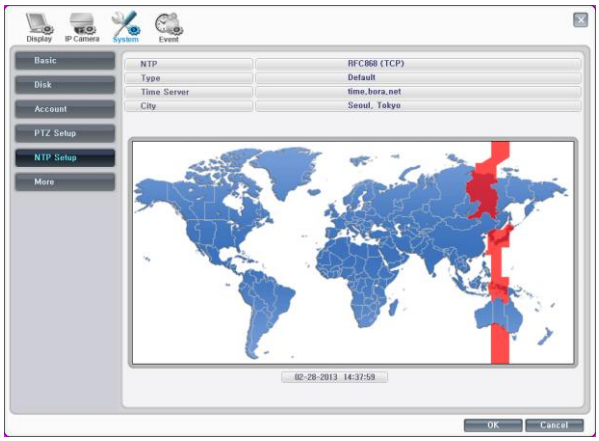


[ID]
Each camera input can be allocated an RS485 ID between 1 and 255.

[Protocol]
Each camera output can have an individual protocol associated with it.

[Baud rate]
The Baud rate of each PTZ camera can be set the choices are:
2400bps/4800bps/9600bps/19200bps

NTP Setup

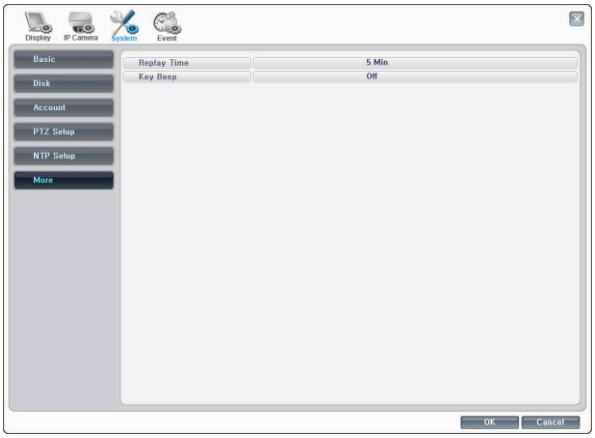


NTP setup allows the NVR to have its internal clock synchronised with an External clock.
The default setting is “Off”

To set up hover on the “Off” a drop down arrow will appear giving the option to turn “On”.
Once “On”, two other options will appear:
Type allows selection between:

Default – Time server is “time.bora.net”.
Domain – Where another time server name can be added.
IP – Where an IP address for a time server can be input.

More

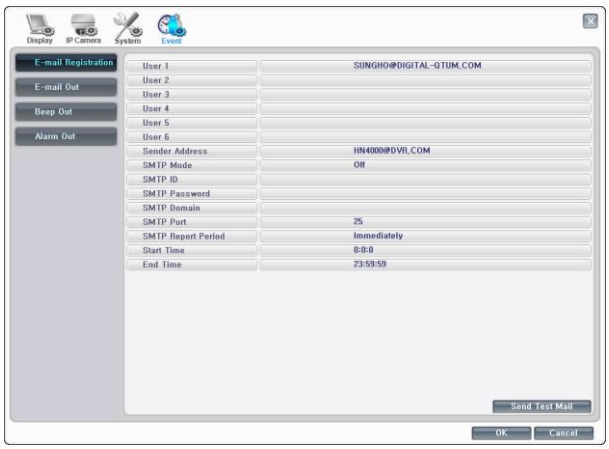


Replay Time
It is possible to play back again from the scene of previous time (1 minutes to 60 minutes).

Key Beep
The NVR beeps whenever the button on the front panel is pressed (On/Off).

7-4. Event

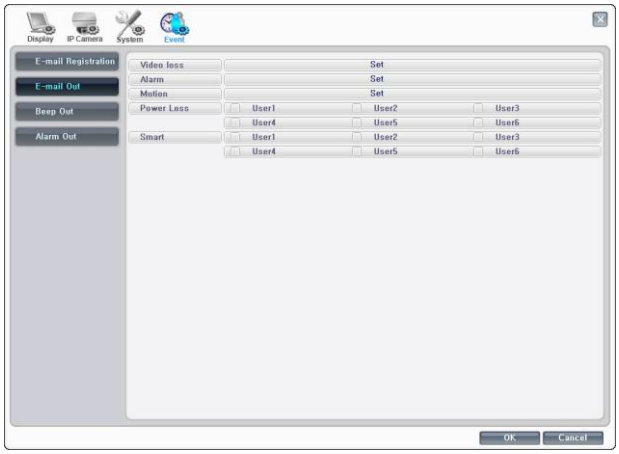
Email Registration



The NVR will send E-mails to up to 6 defined addresses under certain conditions such as Alarms or video loss. The screen is where you setup the receiving address and address that the DVR will send from.

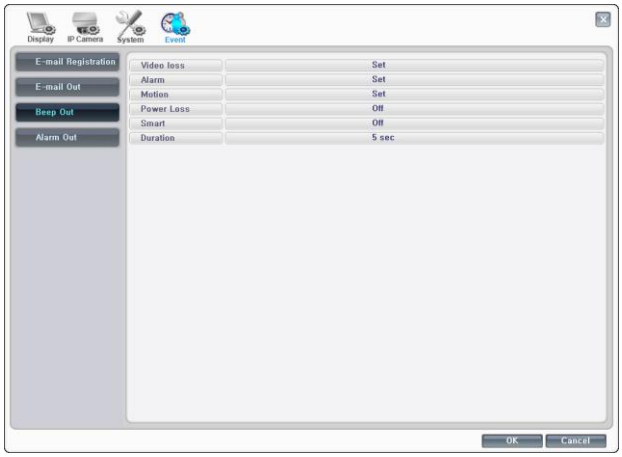
The mails can be set to be sent immediately an event occurs, Daily or Weekly.

Email Out



The actions which cause an e-mail response can be defined within this screen.

Beep Out

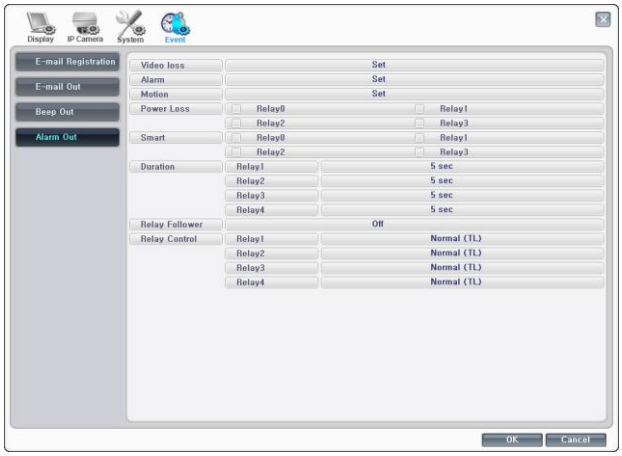


The internal buzzer can be set to sound on the following occurrences:

- Video Loss
- Alarm activation
- Motion Detection
- Power loss

The duration of the buzzer can be set.

Alarm Out



The Alarm output relay can be set to activate on the following occurrences:

- Video Loss
- Alarm activation
- Motion Detection
- Power loss

The duration of the relay closure can be set.

8. Local Search (viewing downloaded footage)

This allows playback of video which has been downloaded top the PC.

8-1. Search

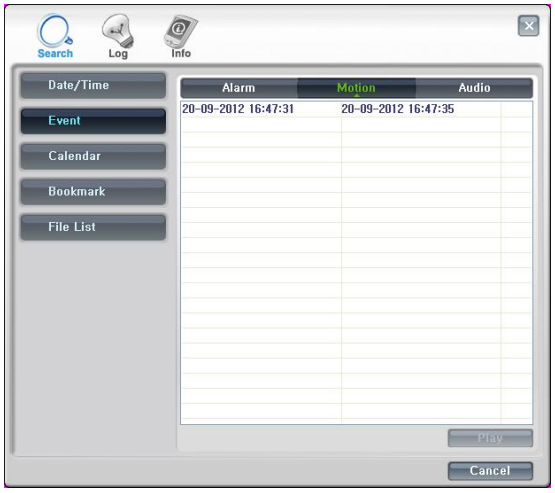
Searches can be done by Date/Time, Even and Calendar.

Date/Time Search

Hovering over the Date and Time bars will allow drop down boxes to select the required time and Date.

Once set, click Play.

Event Search



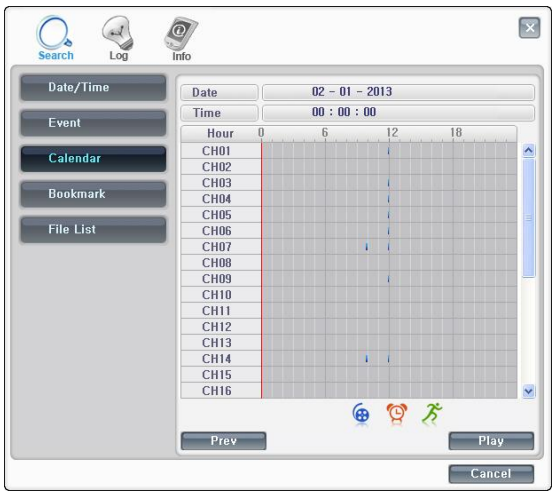
Choose the Event search box then choose the type of Event you are searching for, options are: Alarms, Motion or Audio.

Once the selection is made, a list will appear, choose the Event required and click Play.

Calendar Search

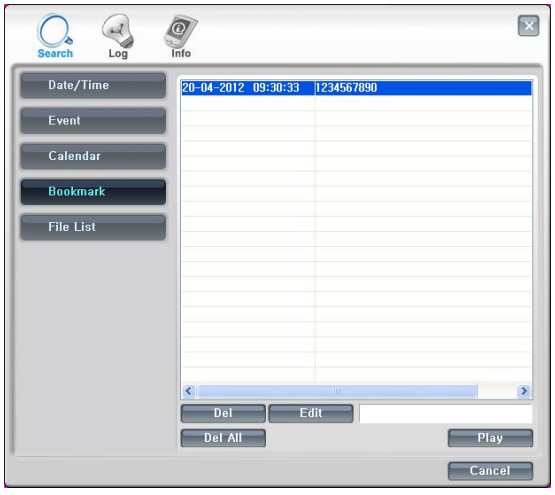
When the Calendar option is chosen this screen will appear, any day with recording available will be highlighted in Blue.

Select the required day.



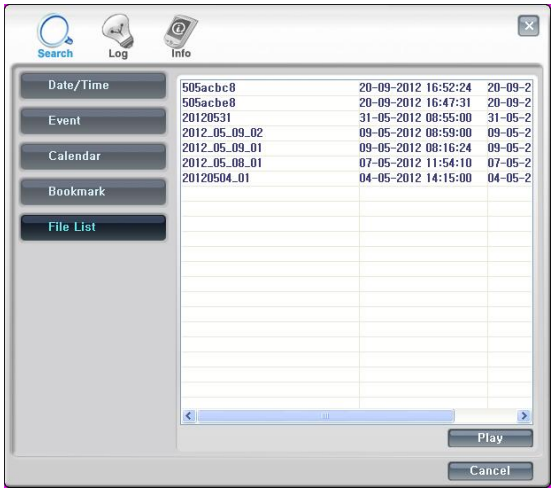
Any downloaded event s will be shown, click on the event, the red line will move to that event. Then click Play to review the recording.

Bookmark Search



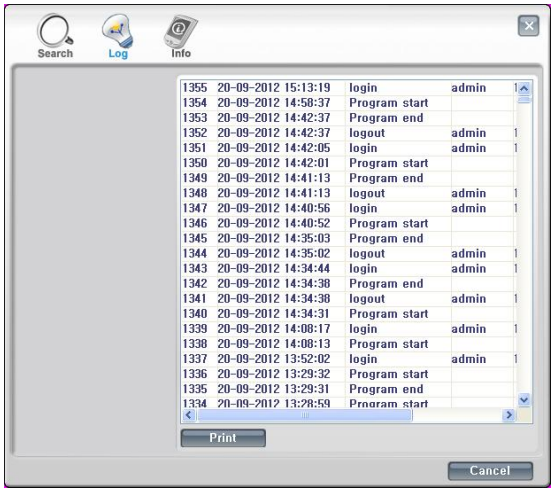
The files with a bookmark will be shown, select one of them. Then click Play to review the recording.

File List Search



The archive list will be shown in order of file name, select the file you wish to review. Then click Play button.

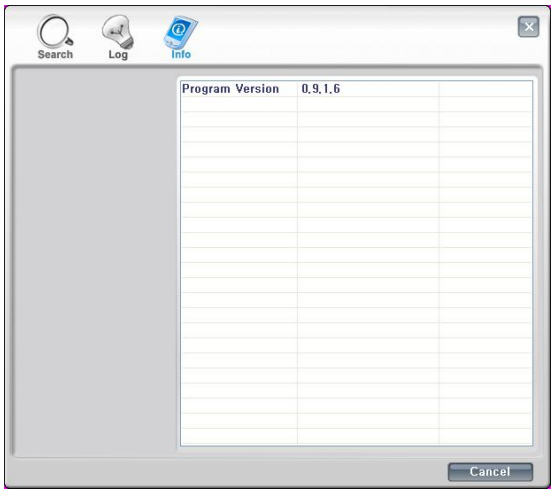
8-2. Log



Clicking on Log will display the log file from the unit.

This file can be printed, by clicking Print.

8-3. Info



Click on Info. This will display the version of the software client being used.

9. Local Setup

This allows the setup of the viewing of the software on the PC.

9-1. Global

This screen allows the following:

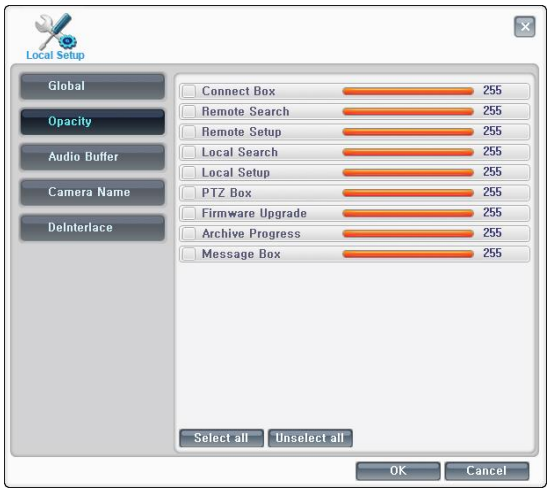
Draw mode to be set to YUV or RGB

Date Format to be set to: DD/MM/YYY, MM/DD/YYYY or YYYY/MM/DD.

Save Format, for the saving of stills as either JPEG, Bit Map or TIF.

Location for where stills are saved.

9-2. Opacity



The opacity or “boldness” of the OSD can be individually set per function. The lower the number the more see through the box.

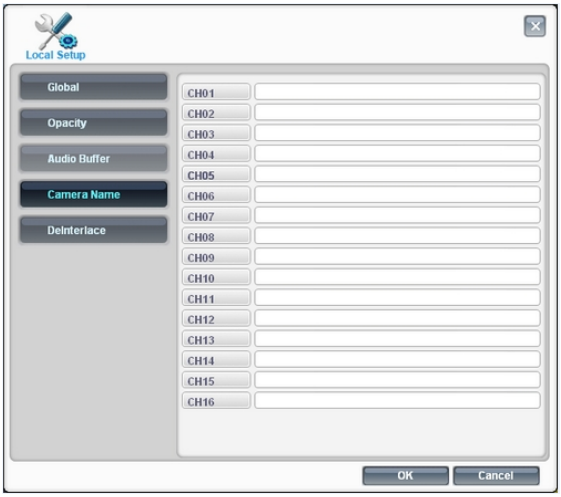
9-3. Audio Buffer

Audio Buffer settings are there to adjust the audio over the network, this will compensate for different network speeds (LANs, WANs etc).

This can only be adjusted if the LIVE video is switched off.

Adjust each variable to achieve best quality video for Network bandwidth available, this is best done through trial and error.

9-4. Camera Name

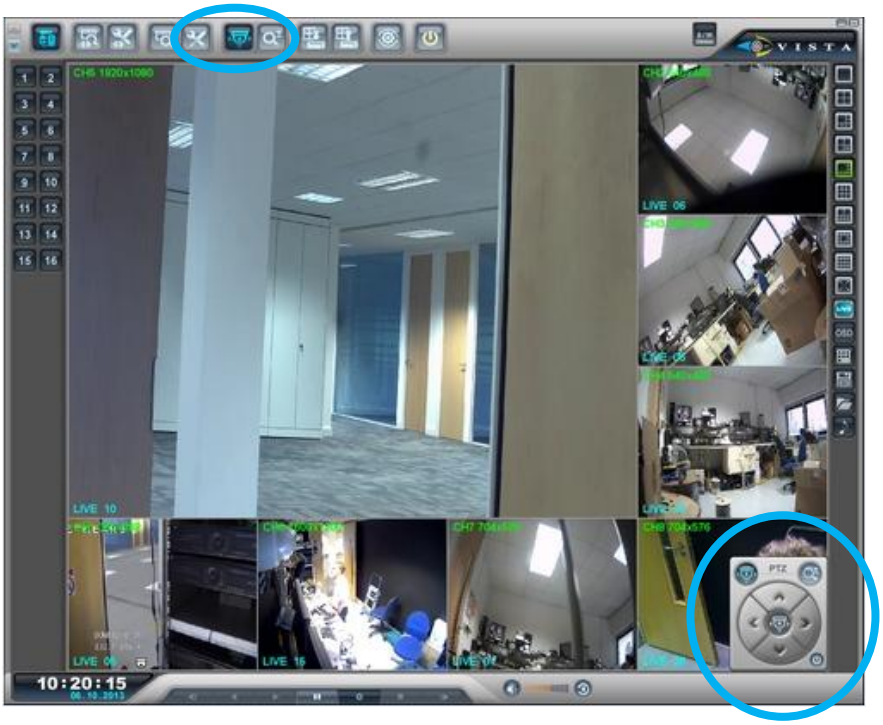


Each camera can be titled, each title can have up to 32 characters.

9-5. Deinterlace

Occasionally if the video is recorded at D1 resolution and there is fast movement within the scene, the image can tend to break up. Turning the Deinterlace function to on may improve the play back.

10. Telemetry Control (Pan/Tilt/Zoom/Focus)



When PTZ button is being pressed, PTZ control icon will be pop-up on the live image.

10-1. Pan / Tilt / Zoom / Focus

When PAN/TILT button  is clicked the Pan/Tilt control appears, this allows Left, Right, Up and Down Control of PTZ

When Zoom/Focus button  is clicked, the control changes to Zoom in on the up arrow, Zoom out on the down arrow. Focus near on the left button and focus far on the right arrow.

10-2. Preset / Learn

Preset & Learn icon

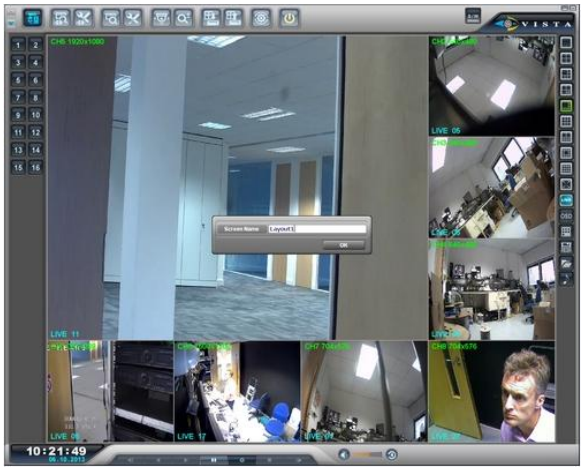
The presets button can be activated by clicking on the centre of the control icon, the preset symbol will appear and the Preset selection box will appear.

To save a preset, move the camera to the desired position then click “Set” followed by the desired number.

To recall the preset, click “Call” followed by the desired number.

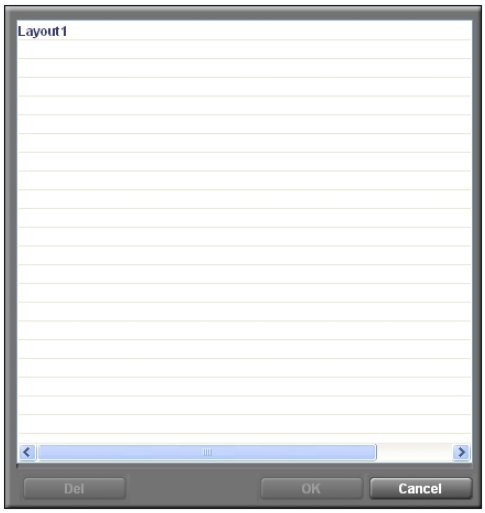
11. Screen Position Save/Load

11-1. Screen Position Save



The positions of each channel on screen are saved into the registry and then restored the next time you open the client viewer software.

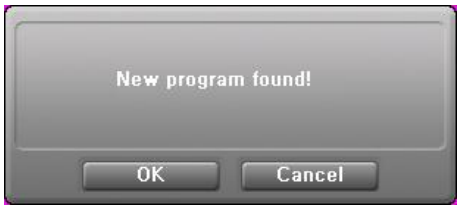
11-2. Screen Position Load

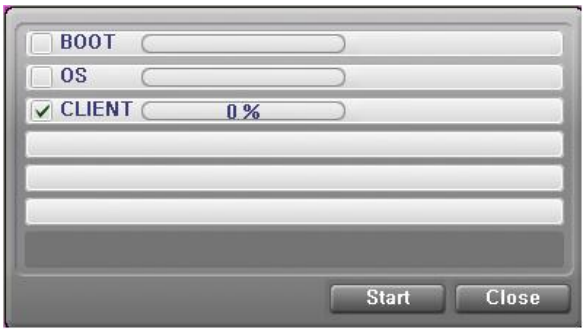


It is possible to edit & restore the screen position which is stored in the registry. Select one of the screen positions, then click OK button.

12. Firmware Upgrade

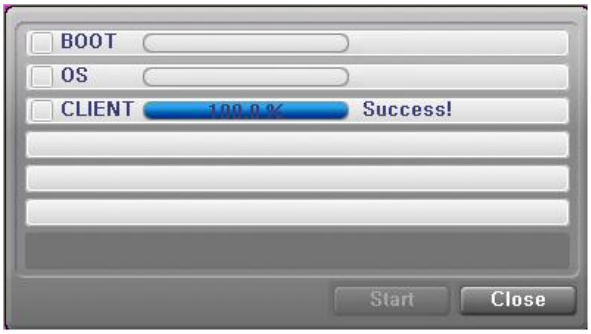
User can select Firmware Upgrade menu, if a new version of firmaware exits in the C:/HNClient/Upgrade folder ,then the message ‘New program found!’ will be displayed if there is no file then ‘New program not found!’ message will be displayed.





To proceed with upgrading press the OK button and select each firmware files to upgrade it to the system, by ticking the boxes.

Once the upgrade has been completed the following message will appear.



Next press the OK button to reboot the DVR, the firmware will only be applied completely once the system is rebooted.

Quit (Exiting Client program)

To exit the Client viewer program click the Quit button.

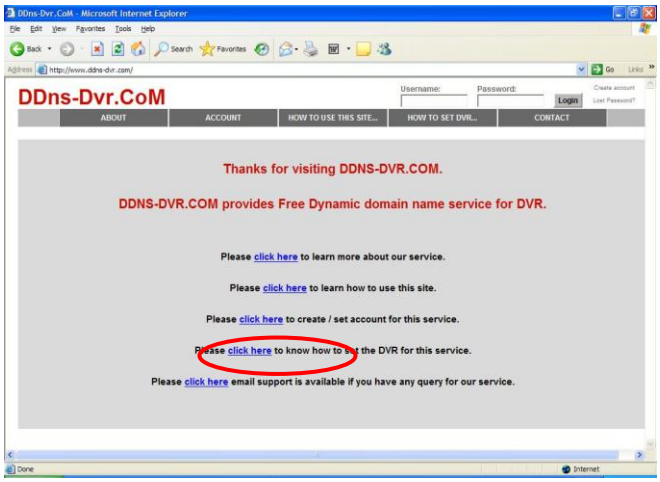
Appendix 1

Dynamic IP (Supporting DDNS Server)

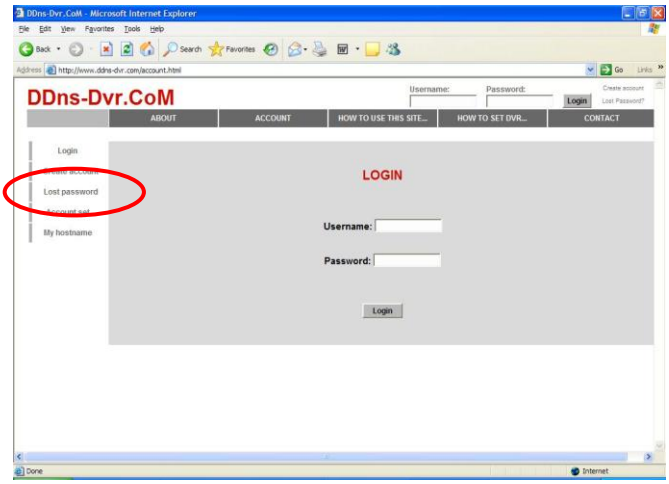
With DDNS Server, This allows a user to connect to the unit remotely without the need for a fixed IP address. (Please register your ID & Domain at www.ddns-dvr.com in which you can use their DDNS server as free of charge)

1. Visit www.ddns-dvr.com to get the DDNS user ID & PW as well as Host name.

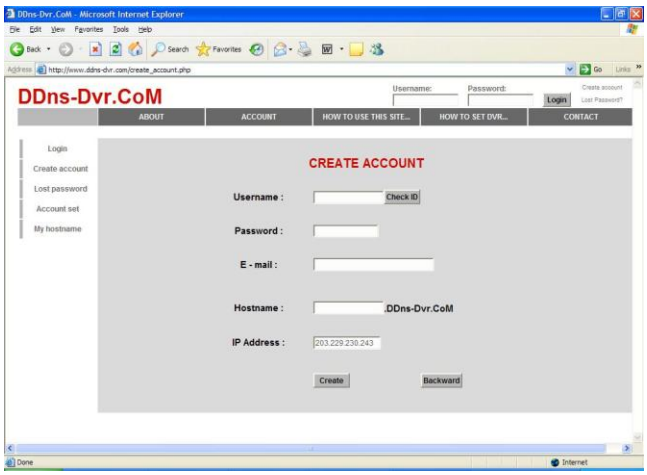
2. Click to create / set account of “Dynamic DNS”.



3. Select “Create Account” menu.



4. Create Account.
   Fill in all blanks in order to create new account.
   ID & Password will be emailed to you when the account is setup correctly.



Once the DDns-Dvr account has been setup, it is necessary to add the details in the Network menu of DVR.

Set up DDNS

1. Change DDNS to ON
2. Input User ID
3. Input User PW
4. Input Domain
5. Click “DDNS Status Check”. If it is “ok”, click “Apply”.

NOTE : In DDNS Setup, The Domain Name has to be filled in.
In DDNS environment, need to be changed DVR & Web server port, please refer to IP set.

Appendix 2

Setup for DVR port & web server port using IP sharing router (Port Forwarding)

1. To use IP sharing router, “Dynamic IP” should be set to “OFF”.
   ① DVR Port : This can be set to any number between 2000 to 65535.
   ② Web Server Port : This can be set to any number between 2000~65535, as long as it is not the same as the DVR Port number.

2. Setup “virtual server” on IP sharing Router
   It is for setting virtual server to forward IP which is allotted to DVR.

   > For example;
   DVR-1, IP : 192.168.10.107, DVR Port : 7000, Web Server Port : 7001
   If DVR-1 is configured as above, the virtual server on IP sharing router is as follows.
   ① PC Server Name : DVR-1(IP 192.168.10.107)
   Protocol : TCP, Internal Port : 7000, External Port : 7000
   ② PC Server Name : DVR-1 (IP 192.168.10.107)
   Protocol : TCP, Internal Port : 7001, External Port : 7001
   * For more detail, please refer to relevant IP sharing manual.
   ③ ‘DDNS’ Setup on IP sharing router
   DDNS configuration is not needed in case of fixed IP.
   ④ To connect DVR-1 with Internet Explorer, http://dvr-1.ddns-dvr.com:7001
   To connect DVR-1 with CD installer, http://dvr-1.ddns-dvr.com:7000

Appendix 3

Specification

Model		QNVR
Video	Camera Input	Max 16ch
	Output	1 HDMI , 1 VGA
Audio	Input via network/Output	16/1
Sensor In / Alarm Out		16/4
Operating System		Embedded Linux OS
Display	HDMI Resolution	1920x1080P , 1920x1080i
	VGA Resolution	1024x768, 1280x720, 1280x1024, 1440x900, 1920x1080
	Split Display	1/4/9/16 way
Recording	Compression	H.264 / MPEG4 / JPEG
	Resolution (Pixel)	1080P(1920x1080) / 720P(1280x720) / D1(720x480/720x576)
	Mode	Normal, Event(Alarm/Motion), Schedule
	Rec Frame	160fps@1080p, 320fps@720p, 640fps@D1
Playback	Split Display	1/4/9/16 way
	Search Mode	Date & Time, Calendar, Event(Alarm/Motion), Bookmark
	Mode	Normal, REW(*1,*2,*4,*8,*16) & FF(*1,*2,*4,*8,*16) Frame to Frame, Pause
Network	Network Interface	Ethernet*3 (for IP Camera, Client PC & NAS)
	Protocol	TCP/IP, SMTP, HTTP, DHCP, PPPOE(ADSL), RTP/RTSP
	Serial Communication	RS-232 x1, RS-485 x2 (PTZ & Keyboard Control)
	Web Browser	Internet Explorer 5.0 Higher (NVR Control or Monitoring)
	Event Transport	E-mail notification when Event occurs
	Viewing / User Access	QVNR client, QCMS, Mobile Viewer / Up to 25 users
Archive	Interface	USB 2.0 x2 , e-SATA
	Archive Device	Internal DVDRW, Network, USB Memory Stick, E-Sata Storage
Event	Motion Detection	Area : Programmable motion detection area for each camera
		Sensitivity : 10 Steps for each channel
	Event Log	Up to 5000 events (Alarm, Motion, Video & Power Loss, Power & Record On/Off)
Control	Controller	IR Remote control / Mouse
	PTZ Camera	Control From RS485 Interface / Via Network
Others	HDD/ODD	Support Max. 4 HDDs up to 12TB / DVDRW x1
	Power Source	AC 100-240V, 50/60Hz
	Power Consumption	70W
	Weight	9Kg(Net) / 11Kg(Gross)
	Dimension	440(W)x420(D)x90(H)mm/Net , 550(W)x540(D)x220(H)mm/Box